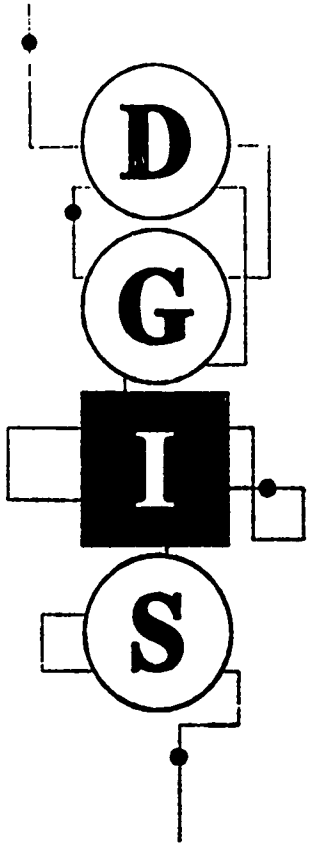

Department of Defense Gateway Information System

DGIS

Users Guide

Defense Technical Information Center
Cameron Station
Alexandria, Virginia 22304-6145

OFFICE OF THE UNDER SECRETARY OF DEFENSE (ACQUISITION)
DEFENSE TECHNICAL INFORMATION CENTER
CAMERON STATION
ALEXANDRIA, VIRGINIA 22304-6145

IN REPLY
REFER TO

FOREWORD

This manual is designed as a reference guide for the users of the Department of Defense Gateway Information System (DGIS). It covers the overview, access and functionality of the modules featured by the Gateway. The manual is the basis for DTIC's DGIS training course.

The manual is organized in modules to facilitate making changes and updates as they occur.

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Table of Contents

CHAPTER 1 - INTRODUCTION AND OVERVIEW

The Department of Defense Gateway Information System (DGIS) is a research tool that helps scientists, engineers, and information specialists take greater advantage of the wealth of computerized on-line information resources.

DGIS has been developed under the sponsorship of the Defense Technical Information Center (DTIC). DTIC is responsible for collecting, disseminating and making available information to the Department of Defense (DoD) community. It not only collects information generated by DoD and its contractors, but it also provides easy access to scientific and technical information databases, online services, and networks which have information relevant to the DoD research, engineering and acquisitions community. The DGIS is designed to meet the information needs of these groups.

PURPOSE

The primary purpose of DGIS is to help users access diverse retrieval systems, download citations from these systems, reformat, analyze, sort, and organize the citations into a comprehensive final bibliography. Other capabilities, such as electronic mail, editing, and file maintenance utilities are available to assist the user with these tasks.

DESIGN

DGIS was designed to provide DoD researchers with a single, easy to use interface for accessing, searching, ordering and post-processing information from the numerous databases relevant to their needs. DGIS is an information gateway that supports access to external information resources, the downloading and uploading of data, simultaneous searching, and post-processing. DGIS uses the UNIX operating system and is accessible through Internet. Applications programs are written in the C programming language.

FEATURES

DGIS offers two modes of operation: menu mode and command mode. Menu mode offers all of the DGIS options in a logical progression of menus. Each DGIS menu option also has a command name which can be used at any point while searching within DGIS. Using either menu mode or command mode, DGIS users can take advantage of the following features:

1. Connecting to other computer systems using either search interfaces or native mode. The Common Command Language (CCL) and SearchMAESTRO provide ease in searching
2. Downloading bibliographic citations from other computer systems
3. Examining the Directory of Online Resources

4. Running several processes simultaneously
5. Analyzing and reformatting downloaded citations (post-processing)
6. Sending and receiving electronic mail
7. Carrying out file operations

These features and several others are discussed in detail in this document.

USERS' GUIDE FORMAT

The DGIS Users' Guide is intended to be an extensive introduction and reference tool to the Department of Defense Gateway Information System and covers all of its major features. The Guide also includes a brief introduction to search concepts. Extensive supplementary materials are included in the Guide's appendices. A comprehensive index is also included.

USERS' GUIDE CONVENTIONS

The following conventions are used throughout this document:

1. Computer responses and prompts will generally appear in shaded boxes
2. User input is in ***bold*-face type *and italics***
3. Names of commands in the text are in **bold**-face type, unless they are used as user input
4. File names are enclosed in "double quotes", unless they are used as user input in which case they will be ***bold*-face type *and italics***
5. Names of chapters, sections, and appendixes are in **bold-face type**
6. Emphasized words in the text are enclosed in 'single quotes'
7. Keys that have several character names (e.g., return) are in upper-case and placed in chevrons. <RETURN> means strike the key labeled <RETURN>, or your **Return** key

In addition, **bold-face type** is used to indicate the major subsections of a chapter, and bullets are used to highlight important concepts.

CHAPTER 2 - USING DGIS

DGIS is designed to be easy to use. The most important features are presented to you on menus, so you will not need to memorize commands. If you prefer using commands, you have the option of using the DGIS command mode. In this Chapter, the basic procedures for using DGIS are discussed.

DGIS OPERATIONS

There are nine main types of activities listed on the main DGIS menu: accessing the DGIS Directory of Resources; connecting to other resources directly or through SearchMAESTRO or the CCL (Common Command Language); downloading records from other systems and post-processing downloaded citations; using electronic mail; editing text; using the help features; access to DGIS registered user information; DGIS news and information; performing miscellaneous utilities. This manual devotes a chapter to each of these features.

To download, you must be connected to another computer system where you can issue DGIS downloading commands to save data from another computer in a DGIS file. Text editing is an option on the File Operations menu. DGIS currently offers Ex (a line-oriented text editor), Vi (a screen-oriented text editor), and Emacs (a simplified full-screen editor). For information on using Vi, Ex and Emacs, refer to the chapters "Visual Editor" and "Ex Editor" or the Appendix J, Editor Command Summaries.

REQUIREMENTS FOR USING DGIS

To use DGIS, you must be a registered DTIC user and have a terminal or a personal computer (PC), a modem, a telephone line, valid accounts on the vendor systems that you wish to use, and a DGIS account.

TERMINALS

DGIS supports a large variety of terminal types. For a list of the terminals that you can use to access DGIS, refer to the Appendix B, Terminal Types List.

PERSONAL COMPUTERS

If you are using a PC as a terminal, you must have a modem, an asynchronous communications board and a communications software package, such as PROCOMM. The software will enable your microcomputer to emulate one of the standard terminal types that DGIS supports, such as vt100.

MODEMS

You must use a modem that is compatible with your terminal or PC and is capable of 300, 1200, 2400 or 9600 baud communications. Some terminals or PCs have built-in modems. For others, you must purchase a separate piece of equipment. DGIS uses modems that support the Bell 212A communications protocol up to 2400 baud and the AT&T 3811 up to 9600 baud.

TELEPHONE LINES

You can use any kind of telephone line to access DGIS, but it is best to have a direct outside line (as opposed to a PBX line) because of the superior data transmission capabilities of these lines.

VENDOR SYSTEM ACCOUNTS

If you want to use the DGIS automatic connection feature, you must have a registered account with each database vendor that you wish to access. To obtain an account, contact the appropriate vendor. Addresses and phone numbers for each of the vendors are provided in the Appendix F, Vendor Information. Once you obtain your account numbers and passwords, contact DTIC Registration (703) 274-7709 or DSN 284-7709 to have the accounts registered with DGIS. You will not be able to use the automatic connect feature unless your account is registered, but you can access these systems directly using the DGIS dial command. When accessing systems that are available through DGIS Master Accounts, you only need to register with DGIS.

Master Account

A Master Account is set up by DTIC with a commercial or government database vendor providing consolidated bill handling by NTIS. See Appendix F.

TERMINAL SETTINGS

The following parameters have to be set on your terminal in order to access DGIS:

Set parity to even		Set parity to none
Set duplex (or echo)to full	**or**	Set duplex (or echo)to full
Set baud rate to 300, 1200, 2400, 9600		Set baud rate to 300, 1200, 2400, 9600
Set word length, data/stop bits to 7/1		Set word length, data/stop bits to 8/0

Protocol: kermit

Terminal Type: vt100 or vt102 (These are default values. DGIS supports many other types. See Appendix B.)

DGIS USER NAMES AND PASSWORDS

USER NAMES

Your user name (or login name) usually consists of your last name or your first initial and last name. User names are assigned when you request a DGIS account. Each DGIS user should have his/her own account and login name. Inform other DGIS users of your DGIS login name so that they can send you electronic mail messages. The DGIS Users option lists the login names of all DGIS users. While you are using electronic mail, you can get a list of users' names by using the **whoson** command.

PASSWORDS

You will be assigned a password when you open your DGIS account. Upon your first login to DGIS, you will be prompted to change your password. A password should consist of no more than eight characters including at least one non-lowercase character (e.g., number, punctuation or uppercase character). You can enter more than eight characters, but only the first eight characters will be used as your password. It is advisable, for security reasons, not to choose your own name, any common first name, or any common dictionary word as a password.

Password Security

System security is provided through the use of passwords. Do not share your DGIS password with anyone; do not log in when anyone can see you typing your password.

Changing Passwords

The system will remind you approximately every three months to change your password by immediately prompting you to enter a new password at login. You can also change your password at any time and as frequently as you wish by simply choosing the **passwd** option from the Utilities menu (option **9** on the DGIS Main menu) or by entering the **passwd** command at any menu prompt.

ACCESSING DGIS

To access the DGIS computer, you can use any of the following telecommunications options:

- Direct Dial (commercial telephone lines)

  (703) 274-0825

- TYMNET (public data communications network) 1-800-336-0149 Customer Service

- INTERNET Access

  Address=telnet 131.84.1.2 or dgis.dtic.dla.mil

For detailed instructions on using these telecommunications options, refer to Appendix A, **Login and Logout Instructions.**

LOGGING INTO DGIS

Once you have successfully gained access to the DGIS computer using one of the telecommunications options listed above, the first thing you will see is the DTIC Communications Server menu as shown below:

```
Welcome to your Communications Server
        ** If you require assistance, please call 1-800-225-DTIC (3842)
        ** For Search Strategy assistance:              - Press 3 & 1
        ** For Telecommunications assistance/problems: - Press 3 & 3

** If you have ANY doubts, choose menu option 1 **
Choice  System Name  System        Application(s)
------  -----------  ------        --------------
  1       dgis       SUN 670       DGIS/Gateway Machine
  2       dticgi     Gould 9050    DTIC CARES (DMINS) / Qoffice
  3       dev        VAX 11/780    Development/Beta machine
  4       dmso       Sun SPARC     M & S Information System
  5       dlagi      Gould         DLA DMINS / Qoffice
  6       colan                    CoLan Access
  7       asc        SUN SPARC     Acquistion Support Computer

  h       HELP
  l       LOGOUT

Type <control>^ to disconnect from any host and return to menu
Selection? 1
```

Enter *1* to access DGIS.

You will then be prompted for your DGIS login, DGIS password, and terminal type.

```
Connecting... session 1 - connected to dgis
session 1 with dgis resumed

SunOS UNIX (dgis)

login:
Password:
Last login: Wed Sep  1 10:46:45 from cs200a.dtic.dla.
SunOS Release 4.1.3 (GENERIC_XBOX) #2: Fri Apr 2 14:26:40 EST 1993

You have mail.
TERM = (vt100)
```

At the **login:** prompt, enter your DGIS login name. Be sure to use only lower-case letters. Your login name is usually your first initial plus all or a portion of your last name for a total of eight (8) characters or less.

At the **Password:** prompt, enter your DGIS password. The password will not display. The initial setting for your password is the same as your login name except that the first character is capitalized.

At the **TERM = (vt100)** prompt, enter a <RETURN> for the default terminal type (vt100) or enter your particular terminal type as shown on the list of supported terminal types in the Appendix B, Terminal Types List. After DGIS verifies your terminal type, you will be brought to the DGIS Main menu.

MENUS

Most DGIS capabilities are presented as menu choices. It is not necessary in DGIS to learn a series of commands because everything is presented to you in a logical progression. Selecting from menus is quick and easy.

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Welcome to your Communications Server
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** If you have ANY doubts, choose menu option 1 **
Choice  System Name  System          Application(s)
------  -----------  ------          --------------
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  2       dticg1     Gould 9050      DTIC CARES (DMINS) / Qoffice
  3       dev        VAX 11/780      Development/Beta machine
  4       dmso       Sun SPARC       M & S Information System
  5       dlag1      Gould           DLA DMINS / Qoffice
  6       colan                      CoLan Access
  7       asc        SUN SPARC       Acquistion Support Computer

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MENU STRUCTURE

All DGIS menus have the following general structure:

title

choice numbers, names, and descriptions

asterisk choice - which is highlighted

menu prompt

MENU - EXPERT MODE

An expert mode is available which shows smaller menus with less explanatory information for those who prefer less help. Expert mode can be set up permanently in your account or you can enter it at any menu prompt by typing *expert*. You can return to normal mode by typing *noexpert* at any menu prompt.

DGIS MAIN MENU

The DGIS Main menu looks like this:

```
        WELCOME TO THE DoD GATEWAY INFORMATION SYSTEM

  >>>>>>>INFORMATION TRANSFER MODULES
 *1   directory      DGIS Directory of Resources
  2   communicate    Connect to Information Resources and People.
  3   process        Information product tailoring.

  >>>>>>>>INFORMATION UTILITIES
  4   em             Electronic Mail.
  5   files          File operations.

  >>>>>>>>SUPPORT INFORMATION
  6   help           Description of features.
  7   users          DGIS registered users.
  8   info           DGIS news and information.
  9   utilities      Misc utilities, change passwd
 10   fulltext       Full text documents (CIM, DoD, etc.)

  DGIS HOTLINE NUMBER:  (703) 274-7791 or (DSN) 284-7791
  or send questions via DGIS EM to 'dgishelp'
Enter a menu number, a command, "b" to backup, "t" for top, or "e" to
end:
*
```

MAIN MENU OVERVIEW

The DGIS Main menu presents the general features of DGIS. For ease of use, these features are grouped into three sections, each of which is discussed below.

Information Transfer Modules are the menu options that enable you to find out about remote systems, connect to those systems, download information, and process the downloaded information. Also available through the information transfer modules are several utilities that allow you to communicate with other users. The **communicate** option is discussed in detail in the chapter "Communications". For information on the **process** option, see the chapter on "Bibliographic Post-Processing".

The Information Utilities options include electronic mail and file operations functions. Using these options, you can send messages to other users (including processed citations) and you can carry out typical file operations such as renaming, deleting, and copying files. Electronic mail is discussed in the chapter "Electronic Mail" and file operations are discussed in the chapter "File Operations".

Support Information options provide valuable information to help you with other aspects of DGIS. The **help**, **user**, and **info** options are discussed later in this chapter. The **utilities** option enables you to change your login password.

SELECTING MENU OPTIONS

There are three ways to select a menu command: choice numbers, choice descriptions or choice highlighting.

Choice Numbers

Every menu selection has a command number to its left. This number is actually a hierarchical number that connects with the menu or sub-menu number on which it is located. For example, to get the address of a registered DGIS user you would choose option 7 for Users from the DGIS Main menu. This should be thought of as "menu 7" which contains two options, 1 and 2. In the numerical hierarchy, options 1 and 2 have the full option numbers of 7.1 and 7.2.

It is not necessary to type the full hierarchical number for a menu selection if the item appears on the current menu. If, however, you want to take advantage of command mode and call up a menu choice from some other menu where it does not appear, you can do so by entering the full number including all decimals such as 2.1.1 to access the CCL Common Command Language function. For more information on the DGIS menu structure, see the section on "Menu Path" later in this chapter.

Choice Descriptions

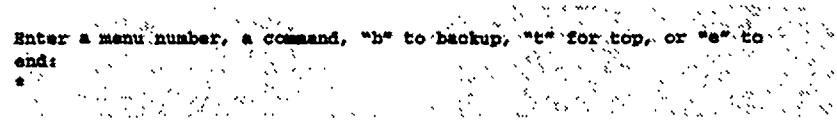
To the right of each menu option in the non-expert mode is a brief description of its function. This is designed to provide more information than the options which are usually only one word. You can enter the description name rather than the choice number when making a menu selection. You may also use the first few letters of the description name such as **em** for Electronic Mail.

Choice Highlighter (*)

The alternative to entering a particular menu choice number or name is to use the asterisk choice-highlighter found on every DGIS menu. The highlighter usually appears first to the left of option *1* on all menus. You can move it up or down along the left side of each menu option by pressing the <SPACEBAR> on your keyboard. Position it to the left of your menu selection and press the <RETURN> key to choose from the menu. Thus, no typing is necessary to make a menu selection.

MENU CHOICE PROMPT

A standard menu prompt appears at the bottom of most DGIS menus:



This is the General DGIS prompt. There are a few specialized menus that do not use this prompt. These menus have their own prompts, but the prompts are always preceeded by an * as in example above.

MENU PATH

The DGIS menus are linked in a hierarchical structure that is like an inverted tree. The main menu is the trunk of the tree and each option on the main menu is a branch. If an option leads you to a sub-menu, each option on the sub-menu is a branch of the branch. The sequence of menus that take you to a particular operation or menu is called the menu path. Selecting a menu choice moves your menu path forward.

See the Appendix C, DGIS Menu Path Diagrams, for a visual representation of the hierarchical structure of the DGIS menus.

BACKING UP

To reverse your menu path, enter *b* (back up) or *t* (top) at the General DGIS prompt. Entering a *b* will take you back up one level in your path. If you are down only one level, a *b* will take you back to the DGIS Main menu. Entering a *t* will always take you to the top of the menu hierarchy - - the DGIS Main menu.

COMMAND MODE

Any DGIS command can be entered at any General DGIS menu prompt. This is called "Command Mode." Command mode can help experienced users who have memorized the menu option names or numbers. You can enter either the command name, a partial command name, or the complete hierarchical option number. For example, if you are currently at the **File Operations** menu and want to read your electronic mail which is not an option on the File menu, you can simply enter the command **em** at the File menu prompt. This will lead you directly to *electronic mail.*

PARTIAL COMMANDS

Entering partial commands is valid in DGIS. This means that you can type just a few letters of a command, instead of the entire string, as long as what you type is unique and could not be representative of any other DGIS commands. For example, you could not type just the letters *co* as a partial command for copy because it could also imply connect. Typing *cop* would be unique enough for the system to recognize it as copy.

COMMAND MODE WITH ARGUMENTS

Another timesaving tool in DGIS is the use of "arguments" with commands. The use of arguments with DGIS file commands means supplying the system with the name of the file that you want to operate on at the time you give the command. For example, rather than typing the command **display** when you want to see a certain file, you provide an argument (in this case, a filename) to the display command: ***display <myfile>*** where myfile is the name of the file you wish to see. Without the argument, DGIS would come back and request the name of the file you wished to display, so you are saving this step by providing the information ahead of time.

GENERAL DGIS FEATURES

There are several features of DGIS important to understand that are not directly related to the main DGIS activities. These features are discussed in this section.

CARRIAGE RETURN

Most DGIS inputs must be followed by a carriage return, referred to as <RETURN> throughout this manual. A <RETURN> is implied in this manual after all inputs unless otherwise stated.

CAPITALIZATION

Since DGIS uses the UNIX operating system, capitalization is very important. UNIX distinguishes between upper case letters and lower case letters, so a "P" is not the same as a "p". When you enter a command, a file name, a user name, or anything else, be sure to use the appropriate capitalization, unless otherwise specified.

INTERRUPT

To interrupt any DGIS process, press *<CTRL>C* (the <CONTROL> key and the letter "C" simultaneously). To interrupt a process on a remote database to which DGIS is connected, press the *<ESC>* key, then the *<CTRL>D*.

STOP SCROLLING

If you have a CRT (cathode-ray tube) monitor, you may want to stop the scrolling of information. To do this, press *<CTRL>S* (the <CONTROL> key and the letter "S" simultaneously). This only stops scrolling; it does not interrupt the *display* process.

START SCROLLING

To restart scrolling after you have used a *<CTRL>S*, press *<CTRL>Q* (the <CONTROL> key and the letter "Q" simultaneously).

BACKSPACE

To backspace and erase text in DGIS, press *<CTRL>H* (the <CONTROL> key and the letter "H" simultaneously) or the <Backspace> key on your terminal keyboard. Do this for every space that you want to erase.

ERASING COMMAND LINES

You can press *<CTRL>U* (the <CONTROL> key and the letter "U" simultaneously) to erase an entire line, instead of using *<CTRL>H* to erase one space at a time.

HELP MESSAGES

DGIS has a help facility that enables you to request help from any point within the DGIS menus. If you select *help* or option *6* from the Main DGIS menu, you will see a general help explanation.

You can enter the word *help* at any menu prompt for general help information. For help and more information about a particular command on a menu, move the asterisk choice selector (by pressing the space bar) next to the menu item in question, then type two question marks (??) and press <RETURN>. A description of that command will appear on your screen. You can also type the word *help* followed by the command name. For a summary of all commands, type *help commands* . This list is included in the Appendix D, DGIS Command Summary.

USER INFORMATION

Since you will want to send messages to other DGIS users, you will need to know their correct login names in order to properly address the messages. Select *users* or option *7* from the Main DGIS menu. You will be prompted as follows:

```
                DGIS REGISTERED USERS

This option lists DGIS users; you may also search for a particular
user for information (i.e., user name, address, etc.)

1   userlist    List ALL DGIS users.
2   userinfo    Searches for a particular user.

Enter a menu number, a command, "b" to backup, "t" for top, or "e" to
end:
e
```

At this point, you can enter option *1* or *userlist* to get a list of the names and addresses of all DGIS Users. One screen of information is displayed at a time. You will be prompted to press the <SPACEBAR> to see another screen of information, or to press the *q* key (a <RETURN> is not needed) to stop or quit the display and return to the menus. You can also press the <RETURN> to see just the next line in the list. Press the *b* key to backup one screen.

The second option, which you choose by entering *2* or *userinfo*, enables you to look for a user by any of the information that might appear in the user's name or address. An example follows:

```
* userinfo
```

USER INFORMATION SEARCH

This option searches for user information. Enter a string of information, such as last name, organization, symbol, etc., to retrieve the user information. Separate multiple searches by a space. Enter the most unique word or name that might help you locate the user. Capitalization is not important. In this example, we are looking for all users with the search string "beranek" in their address.

NOTE: Character case (upper/lower) does not matter in this situation. If a string contains spaces, enclose entire string with " ".

```
Enter string, or 'quit':
* dtic-b

Name:  O'Mara, Marie (momara)
Div:   DTIC-B
Org:   Defense Technical Information Center  (DTIC)
Addr:  Bldg #5, Cameron Station
City:  Alexandria
State: VA
Zip:   22304-6145
Phone  (703) 274-7791
       284-7791
Name:  Serzan, Sharon (sserzan)
Div:   DTIC-B
Org:   Defense Technical Information Center  (DTIC)
Addr:  Bldg #5, Cameron Station
City:  Alexandria
State: VA
Zip:   22304-6145
Phone  (703) 274-7791
       284-7791
Enter string or 'quit':
*
```

If you enter *q* or *quit*, you will return to the DGIS Registered Users menu.

NEWS INFORMATION

For news about DGIS, select option *8* or *info* from the DGIS Main menu. The most recent news about the system will be displayed.

RUNNING PROCESSES SIMULTANEOUSLY

DGIS has a facility which allows you to run more than one function simultaneously. This would often be done to allow citations to be downloaded while doing other functions. To *suspend* an active job or DGIS command activity, type *<CTRL>Z* (press <ESC> <CTRL>Z when you are connected to an external system outside DGIS) to return to the DGIS menus. While at the menu level, you can type the command *jobs* to see the status of any jobs you have suspended with the <CTRL>Z

command. Remember that the job has only been suspended and is not continuing in background. The command *bg* allows the job to continue in background. You can bring a job back to interactive mode (its original state before you pressed <CTRL>Z) by typing the DGIS command *resume* . Note: If you attempt to exit the menus while a background job is still running, DGIS will alert you.

LOGGING OUT OF DGIS

Each time you finish a DGIS session, you must logout as follows:

At any General DGIS menu prompt, enter *e* to exit or q to quit:

```
Enter a menu number, a command, "b" to backup, "t" for top or "e" to end:
* e
```

This returns you to the DTIC Network menu where you enter the letter *l* to *logout.* At this time, you will be completely disconnected.

CHAPTER 3 - FILE OPERATIONS

Data captured from remote computer systems are stored in DGIS files, as are the results of processing these files. Mail messages can also be placed in files for reference and later downloading. DGIS provides a variety of tools to enable you to handle files. You work with DGIS files in much the same way as you work with files in an office file cabinet. This chapter lists and explains each DGIS file operation.

FILES AND DIRECTORIES

DEFINITIONS

A file is a container of information. Files can contain many different types of information (e.g., text, graphics, etc.). Files are stored by DGIS in directories. Directories are simply collections of files. Directories can contain subdirectories.

Home Directory

When you log into DGIS, you are automatically placed in your own, private directory called the home directory. When you create files, DGIS normally places them into this home directory. Usually, you will be working with files in this directory. The file operations commands discussed in this chapter all relate to the directory where you are located when you request them (also called the current directory).

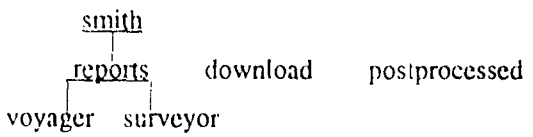
Subdirectories

On DGIS you can keep and work with the files in your login or home directory and never have to work with subdirectories. However, subdirectories provide an extremely useful organizational tool. They enable you to group similar files and avoid the clutter that invariably comes as you create more and more files. In addition, directories or subdirectories also provide a measure of protection since you can permit other DGIS users to view and use files only in selected subdirectories.

When you set up subdirectories, you are creating a structure that resembles a family tree: from a given source directory (parent) you can have any number of subdirectories (children). This inverted tree (hierarchical) directory structure enables you to place files into different subdirectories. Thus you can group files by content, source, etc. However, to work with a file that is not in your current directory, you must either move to the subdirectory containing that file, or specify the path of subdirectories that leads to the file.

Example

The following diagram illustrates one possible directory structure. The top directory 'smith' would be the user's login directory. This directory has 3 subdirectories ('reports', 'download', 'postprocessed'). One of the subdirectories is further subdivided into two additional subdirectories('voyager', 'surveyor').



Directory Path

If you create subdirectories in DGIS, the concept of "path" becomes important. Because DGIS normally works with the files that are in your current login directory, you must specifically tell DGIS the location of files outside your current directory. For instance, in order to move or copy files out of your current directory and into a subdirectory you created, or to another DGIS user, you must specify the directory path in which to place and find the files.

Relative Path Down

To specify the precise path from the directory 'smith' to the subdirectory 'surveyor', you must enter the name of each subdirectory along the path, separated by a forward slash (/). The file name is included last. It, too, is separated from the rest of the entry by a forward slash (/). No spaces can appear in your entry.

```
'reports/surveyor/filename '
```

Note that the directory 'smith' was not specified, since it was the starting point (current directory). This is called a relative path because you are specifying the final location, relative to your starting location.

Absolute Path Down

There are actually two directories above 'smith'. The highest level directory usually has a single letter name, such as 'a'. The next level directory, the one directly above your private login directory, refers to the group of users to which you have been assigned, such as 'airforce', 'army', or 'dtic'. You can either refer to your home directory directly or by abbreviation using the '~' symbol. For example, Smith's home directory would be '/a/army/smith' or ' ~smith'. For most purposes, you do not need to work with these directories. If you create subdirectories, they will be under your private login directory. A path to a file that starts at the topmost directory is called the absolute path for the file.

Safety Features

Whenever there is a chance you will inadvertently delete or overwrite an existing file, DGIS will notify you, and prompt you whether or not to proceed with the operation.

Naming Files

When you create files in DGIS, you will be prompted to name the file. The following guidelines should be followed in naming files:

- spaces cannot be included in a name
- use no more than 13 characters
- you may use alphabetic and numeric characters, a percent sign (%), an underscore (-), a dash (_), or a period (.)
- remember that upper case letters are different from lower case letters (e.g., 'Report' is different from 'report')

FILE OPERATIONS

File Operations Menu

To get to the File Operations menu, select *files* or option *5* from the Main DGIS menu:

```
                    FILE OPERATIONS
The following utilities are available for file operations
1.  list      List files in your account.
2.  display   Display a designated file.
3.  copy      Copy a file under a new name in your account.
4.  rename    Rename (or move) a file under a new name.
5.  delete    Delete a file in your account.
6.  edit      Edit a file.
7.  permit    Grant or deny access to your files or directories.
8   kermit    Transfer files to/from your PC; exit by typing 'exit'.
9   subdir    SUBDIRECTORY FUNCTION MENU.

Enter a menu number, a command, "b" to backup, "t" for top, or "e" to
end:  *
```

Command Mode with Arguments

As described in the chapter "Using DGIS" many DGIS commands can take "arguments"—a particularly useful tool when operating on files. You supply the system with the name of the file that you want to operate on at the time you give the file command. For example, rather than typing the command *display* by itself when you want to see a certain file, you can of provide the filename at the same time you issue the command, rather than waiting for the system to prompt you for it:

```
display <myfile>
```

NOTE: Command arguments can be used for any of the file commands shown on the File Operations menu, such as ***list****,* ***copy****,* ***delete****, etc.*

Listing Files

To obtain a complete listing of the files contained in your current directory, select *list* or option *1* from the File Operations menu. You will be asked whether you want to see a listing of files, directories, both, or a detailed listing of both, as follows:

```
* list

Please select one of the following:

     1) List files only
     2) List directories only.
     3) List both files and directories.
     4) Use long format for display.
     5) Quit and return to menu.
*3
```

Enter a number to indicate the type of listing that you would like to see. For example, choosing *3* will display both files and directories. The directories are indicated with a slash (/). This is shown below.

```
2edit.me        classic.sort     process/
KATHYFILE       classic.stat     q
Mail/           classic.uniq     reg.fields.train2
README          comp             rfc1290.txt
Enter  <RETURN> to continue
```

Detailed File Information

To obtain detailed information about your files (5.1.4), enter *4* at the prompt. The columns shown in the detailed listing provide the following information about your files:

*whether any subdirectories are contained in the current directory

*who can look at or modify the file

*name of the person who created the file (usually you)

*the group to which the creator of the file belongs

*size of the file in characters (bytes)

*date file was created (time if created during current year), and

*the file name

A sample file listing is shown below:

```
-rw-r--r--  1   smith      dtic     3254      Nov 25  1992    turkey
-rw------   1   smith      dtic     278       Dec 24  1992    holiday
-rw------   1   smith      dtic     3637      Jan 27  12:33   temp
-rw-r--r--  1   smith      dtic     42116     Feb  6  10:29   volcano.active
-rw------   1   smith      dtic     32255     Feb  6  10:44   volcano.spaa
-rw------   1   smith      dtic     9861      Feb  6  10:44   volcano.spah
-rw------   1   smith      dtic     250       Feb  6  10:27   test2
-rw------   1   smith      dtic     10529     Jan 24  12:08   ttest1
drwx------  3   smith      dtic     32        Feb  6  10:50   reports/
drwx------  2   smith      dtic     32        Feb  6  10:49   postprocessed/
drwx------  2   smith      dtic     5004      Jan 31  06:24   download/
-rw------   1   smith      dtic     46245     Jan  8  15:00   em
-rw------   1   smith      dtic     16120     Feb  6  10:58   files
-rw------   1   smith      dtic     4190      Jan 14  13:31   savemail
-rw------   1   smith      dtic     181       Jan 16  12:39   unixwrite
A           B   C          D        E         F           G   H
```

Directory/Subdirectory Notation

The "d" in column **A** above indicates that this entry is actually a directory or subdirectory rather than a file.

Privileges

The "r", "w", and "x" codes in column A indicate who can use and view a file. There are three separate types of DGIS users whose access can be controlled. Each type can have permission to read, write, or execute a file or directory. An "r" indicates the file can be read, a "w" indicates that the file can be written (modified), and an "x" indicates that the file can be executed (it is a computer program). See also the section on **"Permit"**.

Your Privileges

The first three (of 9) dashes in column **A** refer to your (the owner) privileges. Normally, DGIS assigns read and write privileges to you alone. In the files above, that is indicated with an "r" and "w" in the first two slots.

Group Privileges

The next set of three dashes refer to group access. Groups are set up by the System Administrator and are a useful tool to enable a select group of people to have access to files, without giving everybody the same access. In your case, you are a member of the dtic group. Any privileges you grant in the group slots, will apply to all members of the dtic group, but not to any other users. The group that a file belongs to is indicated in column **D**. In the example above, only the file 'volcano.active' can be read by dtic group members. They cannot modify or execute the file, since there is no "group write" privilege noted.

Universal Privileges

Finally, the last three dashes in column **A** refer to the privileges of any other DGIS users. Only one file, 'volcano.active,' can be read by all DGIS users as shown by the "r" notation.

Directory Levels

Column **B** indicates the number of items, subdirectories and file name, required to specify the relative path down to the files. All files located in the current directory have the number "1", since all you need to use the file is the file name. The subdirectories, 'postprocessed/' and 'download/,' have a "2" because, to specify the path to the files, you must include a subdirectory name, such as:

```
'download/<filename>'
```

The subdirectory 'reports/' has a "3" since it has one subdirectory beneath it before you get to the files.

```
'reports/surveyor/<filename>'
```

Owner

Column **C** indicates the original owner of a file. In our example, 'smith' is the owner of all the files.

Byte Size

The size of the file in characters is listed in column **E**. This number is greater than the actual characters you would see if you printed out the file since there are special characters in the file for spaces and formatting. There are approximately 2000 characters per double-spaced 8 X 11 inch page.

Date

Column **F** lists the date and time the file was created or last modified.

File

Column **H** contains the name of the file or subdirectory. If the name is followed by a forward slash (/) it is a subdirectory. It will also have a "d" in column **A**.

Returning to Your Menu

After a detailed list is displayed you are returned automatically to the File Operations menu.

Displaying Files

To view the contents of a file, select option *2* or *display*. DGIS will prompt you for the name of the file and the manner in which to show the file. It will then display its contents on your screen.

```
* display

Enter name of file to view, "l" to list files, or "quit":
*
* volcano.active

Select manner of file review below; use CTRL C to stop display.

 1     page     page by page screen review of file.
 2     see      continuous display to end of file.

* 1
```

You can also provide the file name argument at the same time as the display command by entering *display volcano.active.*

Page

Page displays the contents of a file, one screen at a time and erases the screen before displaying the next set of lines. At the bottom of your screen, *page* displays the percentage of the file that you have viewed so far is displayed. The system also asks you whether you want to quit or to continue the display:

```
-- More -- (61%) [Press space to continue, 'q' to quit.]
```

You can also press the *<RETURN>* to see only the next line of the file. If your terminal type is unknown or just a printing terminal, the message will not display. However, your terminal will beep at the end of each "screen" of information. You can then enter the same commands.

See

Select *see* to obtain a continuous listing of your file without any additional lines being added. You can halt the continuous listing of a file by entering *<CTRL>S*. The display will remain "frozen" until you enter *<CTRL>Q*. You can do this repeatedly as you view the file.

Copying Files

Select the *copy* option or *3* when you want to make a second copy of a file. **Copy** will make an identical copy of your original file, but you should store it under a different name. After you select *copy*, DGIS will prompt you for the name of the file to be copied, and the name of the copy.

```
* copy
Enter name of file to be copied, "l" to list files, or "quit":
*test.index
Assign destination file name, "l" to list files, or "quit":
*old.index
Copy Command Complete.
File named: "test.index" has been copied into file "old.index"

Enter <RETURN> to continue
```

You can also provide the file name arguments at the same time as the **copy** command by entering *copy test.index old.index*.

Different Directories

Copy also enables you to place a copy of your file into a different directory. To do this you must specify the relative or absolute path as part of the file name. For instance, to place the second copy into a subdirectory of your current directory, first enter the subdirectory's name followed by a slash (*/*), followed by the file's name. Thus, to copy the file 'test.index' from the current directory 'smith' to the 'reports' subdirectory, the new "destination file name" would be:

```
'reports/old.index'
```

You could also use the **absolute** name, '~smith/reports/old.index'.

Printing Files

If you want to obtain a printed copy of your files, you must do that at your terminal. If you are using a microcomputer or a printing terminal, this is an easy process. By selecting the *see* option of **display**, you will get a continuous listing of your file. This

will give you a continuous printout if you have a printing terminal. If you are using a microcomputer, you should be able to capture the display into a file and print it out provided your printer is configured with the appropriate software.

Renaming Files

You can use the **rename** command or option *4* to change the name and the location of a file. DGIS will prompt you for the information it needs:

```
* rename
Enter current file name,  "l" to list files, or "quit":
* volcano.active
Enter new file name, "l" to list files, or "quit":
* volcano.all
Rename command completed.
File named: volcano.active has been renamed to:  volcano.all.
Enter  <RETURN>  to continue
```

You can also provide the file name arguments at the same time as the **rename** command by entering *rename volcano.active volcano.all.*

Moving Files with Rename

Similar to the copy command, you can use the **rename** command to place a file into a different subdirectory. The difference is that **copy** leaves a copy of the file in your current directory, while placing a copy in a different directory. **Rename** does not leave a copy in your current directory. So, if you wanted to place the file 'test.index' into the 'reports' subdirectory **WITHOUT** leaving a copy in your current directory ('smith'), enter the following:

```
* rename
Enter new file name, "l" to list files, or "quit":
* reports/test.index
```

Deleting Files

Select *delete* or option *5* to remove a file from your current directory. Before deleting your file, DGIS will check to make sure you have entered an existing file name. An example of deleting a file appears below.

```
* delete
Enter file to be deleted, "l" to list files, or "quit" (use  *  for
 truncation):
* old.index
Do you really want to delete file: "old.index"  (y/n)?
* y
Delete command completed.
File named: "old.index" been removed.
Enter  <RETURN> to continue
```

Caution: Once you delete files, they cannot be recovered. Be sure you delete the correct files.

You can also provide the file name argument at the same time as the **delete** command by entering *delete old.index.*

You can use the asterisk (*) truncation symbol to delete several files with one command. For example, to delete all files beginning with 'volcano', enter:

```
delete volcano*
```

Editing Files

DGIS provides three different editors that you can use to edit your files: Ex, Vi, and Emacs. **Ex** is a basic line editor with commands that are a subset of Vi. In Ex, you edit text on a single line or group of lines one at a time, based on the cursor position. It is easier to learn than Vi, but is much more limited in scope. **Vi** is a full screen editor that enables you to move your cursor around the entire screen and edit text, much as you do on a word processor. A terminal or PC with screen-drawing ability, such as vt100, is necessary in order to take full advantage of this editor. **Emacs** is a very easy-to-use full screen editor, although you still need a terminal or PC with screen-drawing ability. For a summary of all the editors and their commands, see Appendix J, Editor Command Summaries. See also the chapters "Visual Editor" and "Ex Editor".

HINT: When setting up your telecommunications package, be sure to select "non-destructive backspace" to prevent characters from disappearing from your screen.

Select *edit* or option *6* to edit a file. DGIS will prompt you to select the editor you wish to use.

```
* edit
                                EDITORS

The following editors are available to you
* 1        ex        Use the ex line editor, exit by typing 'wq'.
  2        vi        Use the vi full screen editor, exit by typing 'ZZ'.
  3        emacs     Use a simplified editor.
  4        recover   Recover an emacs file lost due to dropped connection.

Enter a menu number, a command, "b" to backup, "t" for top, or "e" to
end:
* test2
```

Ex Editor

If you want to use the Ex editor to edit your file, select option *1* or *ex* . DGIS will prompt you for the file to edit. Chapter 9, Ex Editor provides an introduction to Ex and Appendix J, Editor Command Summaries contains a command summary for Ex.

```
*1

                                EDIT FILE

This option assumes knowledge of the 'ex' (line editor).
To leave the ex editor, enter wq.

Name of file to edit, "l" to list files  or "quit":
*
```

You can also provide the file name argument at the same time as the ex command by entering *ex test2*.

Vi Editor

If you want to use the Vi editor to edit your file, select 2 or *vi*. DGIS will then prompt you for the file to edit. Chapter 10, Visual Editor, is an introduction to Vi and the Appendix J, Editor Command Summaries contains a summary of the Vi commands.

```
* vi
                                EDIT FILE

This option assumes knowledge of the 'vi' (visual editor).
To leave the vi editor, enter ZZ.

Name of file to edit, "l" to list files or "q" to quit:
* test2
```

You can also provide the file name argument at the same time as the vi command by entering *vi test2*.

Emacs Editor

Another, easy-to-use editor is Emacs. This is a full screen editor with a small set of commands. All commands in Emacs use the **<CTRL>** key. You must hold the **<CTRL>** key down while simultaneously pressing another key. The three main commands in **emacs** are:

<CTRL> X	to delete a character
<CTRL> W	to fill a paragraph to the margin
<CTRL> C <CTRL> C	to exit the editor

To insert characters, place the cursor where you want the characters to appear and type them in. You can move around the screen with the cursor keys. Appendix J, Editor Command Summaries has a list of all the Emacs commands. To try the editor, choose option *3* or *emacs* from the menu:

```
* emacs
                        EDIT  FILE  USING  EMACS

Name of file to edit, "l" to list files, or "quit":
* test2
```

You can also provide the file name argument at the same time as the emacs command by entering *emacs test2*.

Recover an EMACS File

Recover is designed to retrieve partially-edited messages.

To select the **recover** function, type *rec* or select item *4* on the **EDITORS** menu. The **Recover** feature retrieves messages that were in the process of being edited with the **emacs** editor while the system went down or a connection was accidentally lost. The program lists all of the messages that can be recovered, including any user files also left over from a system crash or lost connection.

The user is given the option of **editing** each file, **deleting** it, or **quitting**. If **editing** is chosen, the program automatically puts the user into *emacs* to finish editing the file; then, for lost messages, the program puts the user into a "copy" of *em* to finish sending the message. Next, the user will be given a list of remaining files to recover or, if all files have been recovered, return to the original *em* session.

```
* rec

The EMACS editor creates a backup file called 'yourfilename-' when you
exit from it. However, if the session was stopped abruptly through the
loss of the communications line, the RECOVER command will attempt to
recover the file that was in use at the time of the line drop.

Do you wish to continue (y/n)?y

Starting the emacs file recovery program.

Initializing . . . please be patient.
Almost finished ...

Enter <RETURN> to continue
```

Permit

DGIS enables you to restrict or open access to your files and directories. DGIS automatically restricts newly created files and directories so that no one else can display or copy them. However, you can alter this by changing the appropriate permissions. Normally, all files that you create in your home directory are protected so that others can see the names of your files but cannot view the content. If you wish to allow someone to display or copy the contents of a file in your home directory, you must use the **permit** feature to grant them access.

If you create a subdirectory or series of subdirectories and wish to allow someone to display or copy the contents of a file in one of your subdirectories, you must permit them to do this. Specifically, you must be sure that every subdirectory in the path and the file itself has had their access set so that others can view them. Otherwise, no one else can get to the file.

The **permit** command functions the same way whether you are changing the permissions on a file or a subdirectory:

```
* permit
Enter name of the file or directory for access change, "l" to list files,
or "quit":
* test2a
Enter access as below:
1) Grant access to others.
2) Deny access to others.
3) Quit.
Enter your choice.
*1
test2a has been set to global read.
Enter <RETURN> to continue
```

You can also provide the file name argument at the same time as the permit command by entering *permit test2a*.

Kermit

Kermit is a very popular and widely used public domain file transfer program, now available directly on DGIS. Using Kermit, you can send and receive data to and from a remote system using a built-in error checking and correcting protocol

When you have **Kermit** protocols in the communications package residing on your PC, you can emulate a vt100 terminal to access DGIS. You can also easily send files back and forth to the DGIS computer from your PC.

To use Kermit on DGIS, enter the word *kermit* from any menu prompt or choose option *8* from the File Operations menu. Your prompt will change to the Kermit prompt:

```
c-kermit >
```

You can type ? for help. This will provide a list of general Kermit commands. A more detailed Kermit command summary can be found in the Appendix K, Kermit Commands. To exit Kermit, type *exit* and you will be returned to DGIS.

You can also provide the Kermit-specific command and the file name argument at the same time instead of waiting for the Kermit prompt. For example, to send the file 'test2a', enter

```
kermit -s test2a
```

Subdirectory Operations Menu

To perform operations on directories, select *subdir* or *9* from the File Operations menu. DGIS will display the Subdirectory Operations menu.

```
SUBDIRECTORY OPERATIONS
```

Files can be placed in subdirectories. A subdirectory name is indicated by a system-assigned slash following the name, e.g., "name/". To enter a file in a subdirectory it is necessary to go into that subdirectory. See menu of subdirectory operations:

```
1       whereami        Shows where you are in subdirectory level.
2       mkdir           Make a subdirectory.
3       chdir           Change into a subdirectory.
4       updir           Change to next higher up directory.
5       rmdir           Delete a subdirectory.
Enter a menu number, a command, "b" to backup, "t" for top, or "e" to
end:
*
```

This menu provides the necessary commands to build and maintain a hierarchical directory structure. Keep in mind that you are only working with directories (file containers), not with the actual files.

Whereami

To determine where you are currently located in your directory structure, select *whereami* or option *1*. DGIS will then display your absolute path from the highest or root level. For instance, if you were located in the 'voyager' subdirectory of the 'reports' subdirectory in the 'smith' directory structure, DGIS would display the following:

```
* whereami
Your home directory is:  /a/dtic/smith
Your current directory is:   /a/dtic/smith/reports/voyager
Your current subdirectories are:
Enter  <RETURN> to continue
```

The information before 'smith' indicates that the 'smith' directory is actually a subdirectory of the 'dtic' directory which is a subdirectory of the 'a' directory.

Making a Subdirectory

In order to create a subdirectory of the directory you are currently in, select *mkdir* or option 2. DGIS will prompt you for the name of the new subdirectory. In this example, to add a subdirectory directly under *'smith'*, called *'oldmail'*, you would enter the following.

```
* mkdir
                        MAKE A SUBDIRECTORY
```

This option will create a subdirectory in which files may be made. When you have made the subdirectory, it will be identifiable by a system-assigned slash following the subdirectory name.

```
Your home directory is:   /a/dtic/smith
Your current directory is:    /a/dtic/smith
Your current sub-directories are:
download/
postprocessed/
reports/
Assign a name to your new subdirectory, or "quit":
*  oldmail
Subdirectory named: "oldmail" has been created
Your home directory is:   /a/dtic/smith
Your current directory is:   /a/dtic/smith
Your current subdirectories are:
download/
oldmail/
postprocessed/
reports/
Enter chdir in  the next menu to enter another directory.
Enter  <RETURN> to continue
```

Note that you have not changed positions in your structure. You have only created a new subdirectory directly under 'smith'.

You can also provide the file name argument at the same time as the **mkdir** command by entering *mkdir oldmail*.

Changing Directories

To change to a directory located under your current directory, select *chdir* or option *3*. In this case, you will switch to the subdirectory 'reports'.

```
* chdir
                    CHANGE INTO A SUBDIRECTORY
```

This option switches you into one of your subdirectories in order for you to create files in that subdirectory.

```
Your home directory is:   /a/dtic/smith
Your current directory is:   /a/dtic/smith
Your current subdirectories are:
download/
oldmail/
postprocessed/
reports/
Enter one of the following:
<subdir name> : to switch to a subdirectory
'home'        : to switch to your home directory
<RETURN>      : to remain where you are
* reports
```

You can also provide the file name argument at the same time as the chdir command by entering *chdir reports*.

Moving Back

To move back up in a hierarchical structure, select *updir* or option *4* from the Subdirectory Operations menu. After DGIS moves you back, it also prints out your current path:

```
* updir
CHANGE TO NEXT HIGHER DIRECTORY
```

This option brings you to next higher directory.

```
Do you wish to continue (y/n)?
* y
Your home directory is:      /a/dtic/smith
Your current directory is:   /a/dtic/smith
Your current subdirectories are:
download/
oldmail/
postprocessed/
reports/

Enter  <RETURN> to continue
```

Removing a Subdirectory

To remove a subdirectory that you have created in your current directory, select *rmdir* or option *5*. DGIS will prompt you for the name of the directory to delete. However, you cannot remove a directory that has files in it. You must delete all of the files and any subdirectories in the subdirectory you wish to delete.

```
* rmdir
                    DELETE  A  SUBDIRECTORY
```

This option will delete a subdirectory from your current account. All files under this subdirectory must also be deleted.

```
Your home directory is:      /a/dtic/smith
Your current directory is:   /a/dtic/smith
Your current subdirectories are:
download/
oldmail/
postprocessed/
reports/
Enter name of subdirectory to delete, or 'quit':
* oldmail
Are you sure you want to delete subdirectory:  oldmail
Answer   (y/n):
y
Subdirectory named:  "oldmail" has been deleted.
Your home directory is:       /a/dtic/smith
Your current directory is:    /a/dtic/smith
Your current subdirectories are:
download/
postprocessed/
reports/
Enter  <RETURN>  to continue
```

You can also provide the file name argument at the same time as the **rmdir** command by entering *rmdir oldmail*.

CHAPTER 4 - ELECTRONIC MAIL

ELECTRONIC MAIL (EM)

The material in this chapter was adapted from the "Technology Information Systems (TIS) Tutorial" (Draft: January 1986) prepared by Gary Engel and Carol Foret of the Lawrence Livermore National Laboratory and copyrighted by The Regents of the University of California, Berkeley, California.

Electronic Mail (EM) allows you to send mail to and receive mail from users of your computer system and other computer systems via your terminal. This means that you can send a message to a user and receive a reply in minutes, regardless of whether that user is located in the same building, across town, or in a distant city or state. EM also simplifies mail handling, accessing, and storage.

INTRODUCTION

All work in **EM** occurs in **mail** files. Usually you receive mail in the default mail file, which is the standard beginning location upon entering **EM**. You can create other mail files to store mail received or to keep copies of mail sent.

To invoke any EM command, use its full name or an abbreviated form. For example, you can invoke *reverse* using *rev*, *reve*, *rever*, *revers*, or *reverse*, but you cannot use *r* since *r* is interpreted as an abbreviation for the **read** command nor can you use *re* which could be *read* or *reverse* . The examples in this chapter show the shortest acceptable abbreviation for each command.

The Appendix E, Alphabetical List of **EM** Commands, contains a summary of EM commands discussed in this chapter with brief descriptions and examples of how to use them.

For more advanced **EM** topics, such as **conferencing** and **automatic mail forwarding**, see the *help commands*, e.g., *help confer* or *help forward*. If a user wishes to set up automatic **mail forwarding** in order to get his/her email on another system or from another system, state this on the DGIS registration form and the systems administrator will set it up. For setting up a '.emrc' file to tailor **EM** commands to your particular needs, contact the DTIC Network Services Branch at (703) 274-7791 or DSN 284-7791).

BASIC EM OPERATIONS

Entering EM

To use **EM**, enter *4* or *em* at the Main DGIS menu prompt.

```
* em
Electronic Mail: Version 6.9.2
Type 'h' for help.
You have 6 messages.
EM>
```

The **EM+** sign is the **EM** prompt. You must see this prompt to enter all **EM** commands except for Message Option Prompt commands.

Leaving EM

To leave **EM**, use either *quit* or *q* to leave and save changes, or *exit* to leave and not save changes.

KEEPING A COPY OF ALL MAIL YOU SEND

A copy of all mail you send is automatically saved in a mail file called 'sentmail'. If you send a lot of mail, the 'sentmail' file can grow very rapidly. Periodically you should access it to delete or archive its contents. See the sections on **deleting** and **saving mail.**

SENDING MAIL

Use the following steps for creating and sending mail:

1. Type *m* (for the **mail** command).
2. Respond to the **To:** prompt that appears by typing the names of the users that you want to receive the message. Separate each name with a comma or space. End your response with a <RETURN> . To bypass a prompt, simply press <RETURN> .
3. Respond to the **Cc:** prompt by typing the names of the users to whom you want the message copied. Separate each of these names with a comma.
4. Respond to the **Subject:** prompt by typing a one-line description of the mail's contents.
5. Type your message. To correct mistakes as you make them, use the <BACK-SPACE> key.
6. End the message with **<CTRL>C <CTRL>C**. The message option prompt appears.
7. Type *s* in response to the prompt to send the message. The system notifies you when it sends the message.

The following is a simple example of a mail session:

```
EM+     m
To:     engel
Cc:     smith
Subject:Post Office
Type message, end with  CTRL-C CTRL-C twice.
The U.S. Post Office Department was created in 1789 and in 1970 was
renamed the U.S. Postal Service.
^C ^C
abort, display, help, include, justify, message, modify, receipt,
       save, send, userinfo, whoto:     s

engel - sent
smith - sent
```

Message Option Prompt

The following table provides an overview of the features of the message option prompt.

Message Option Prompt

Option	*Ab*	*Result*
abort	*a*	abort the message and return to the EM prompt (EM+)
display	*d*	display the message header and body
help	*h*	display information about options
include	*i*	include (append) a text file to the message body
justify	*j*	provide even right and left margins for the message
message	*me*	append the body of a message in the current mail file to the body of this message
modify	*m*	modify the headers or the body of a message
receipt	*r*	request a return receipt
save	*sa*	save the message in the "unsent" mail file
send	*s*	send the message
userinfo	*u*	display the full name, user name, and organization of a user or users
whoto	*w*	display the names of the recipients of the message

Table 1

To choose any option, enter its name or abbreviation. The prompt repeats until you either send the message, save it, or abort it.

Aborting a Message

Abort or discard an unsent message by selecting *abort* or *a* . The system asks you to verify that you want to discard the message:

```
Really throw away this message (y/n) ?
```

If you typed *y*, the file would abort and the EM command prompt (**EM+**) would reappear. If you type *n* to retain the message, the message option prompt reappears.

Displaying a Message

You use **display** to verify that the message is exactly as you intended. If you type *display* or *d*, the entire message will be redisplayed.

Message Option Prompt Help

You use **help** to obtain an on-line explanation of the message option prompt capabilities.

Including a Text File

To include (append) a text file to the end of the message body, you use *include* or *i*. You will be prompted for the file name. Respond with the name of the file to be included. A message appears verifying that the file was appended. Use display to view the results. For example:

```
abort, display, help, include, justify, message, modify, receipt,
       save, send, userinfo, whoto:      i
Name of file to include:       pony
["pony" 4 lines, 182 characters appended]
```

Justifying the Right Margin

To justify the right margin of a message you use *justify* or *j*. You can then use **display** to review the justified message. The only way to unjustify a message is to use the **modify** option and edit each line. For example:

```
abort, display, help, include, justify, message, modify, receipt,
       save, send, userinfo, whoto:      j
abort, display, help, include, justify, message, modify, receipt,
       save, send, userinfo, whoto:      d
SUBJECT : Raving about EM
SENT TO : engel
COPY TO : smith

EM revolutionizes communication. Wait until everyone uses it. The Post
Office as we know it will be just like the pony express. The pony express
was a mail system of the American West that flourished briefly circa
1860. It used relays of riders and ponys to hasten mail delivery west of
St. Joseph, Missouri.

abort, display, help, include, justify, message, modify, receipt,
       save, send, userinfo, whoto:
```

Adding an Existing Message

To use **message** to append the body of a message in the current mail file to the body of the message you are creating, type *message* or *me* . For example:

```
abort, display, help, include, justify, message, modify, receipt,
       save, send, userinfo, whoto:       me
Number of message to append:       1

["Message   1" 3 lines, 101 characters appended]
```

You can also forward a message. See the section on **forwarding mail**.

Modifying Your Message

To change the message or parts of its header, select the option *modify* or *m* . **Modify** responds with its own prompt, asking what portion of the message you want to modify. For example:

```
abort, display, help, include, justify, message, modify, receipt,
       save, send, userinfo, whoto:      m
tag, to, cc, bcc, subject, message, help, or helpedit:
```

Help provides an on-line explanation of these commands. Type *h* plus the command for instructions.

The first five **modify** suboptions allow you to change the header fields. **Tag** is an optional header part that allows a comment or code to be associated with a message. **To**, **cc**, and **subject** have been previously mentioned. **Bcc** is also an option that allows you to send out blind carbon copies of messages. Other recipients will be unaware of these carbon copies.

To modify any part of a message, type the name of the part or a distinguishing abbreviation. **Modify** displays the field's current contents, and allows you to either replace the contents of the field by re-typing them or retain the contents by typing an asterisk. Change the **Subject:** field of a message as follows:

```
tag, to, cc, bcc, subject, message, help, or helpedit:  s
Current SUBJECT field: Raving about EM
(Type '*' for current)
Subject:     Raving about EM, the pony express, and the Post Office
abort, display, help, include, justify, message, modify, receipt,
       save, send, userinfo, whoto:
```

If you choose to modify the body of your message, you will automatically call the Ex line editor, the Vi screen editor or the Emacs editor. To see which editor is set up for your account, type *set editor* at the **EM+** prompt. If you wish to change your electronic mail editor, contact the DTIC STINET Office at (703) 617-7931. The **Emacs** editor is the default editor for new users.

For information on using Vi, Ex and Emacs, refer to the chapters "Visual Editor" and "Ex Editor" or the Appendix J, Editor Command Summaries. The **help** and **helpedit** options provide some advice on editing messages, but you will have more success if you refer to the chapters mentioned in Appendix J.

You cannot use Vi or Emacs if you do not have a full screen terminal or if you typed *unknown* as the response to the terminal type prompt when you logged on.

Requesting a Return Receipt

You can use **receipt** to request a return receipt from each user in the **To:** field and **Cc:** field. For example:

```
abort, display, help, include, justify, message, modify, receipt,
       save, send, userinfo, whoto:      r
Receipt requested to "engel"
abort, display, help, include, justify, message, modify, receipt,
       save, send, userinfo, whoto:
```

HINT: If you are sending a message to another computer, the communications package on the receiving computer may not be equipped to send a receipt. However, you will usually get a receipt from the remote computer when the message arrives there.

Saving an Unsent Message You can save a message that you have already created in the 'unsent' mail file. Later you can retrieve it, modify it, and send it. Choose the **save** option. **Save** returns you to the (**EM+**) **EM** command prompt. For example:

```
abort, display, help, include, justify, message, modify, receipt,
       save, send, userinfo, whoto:       ss
Message composed and placed on file '~/unsent'
Type 'i  ~/unsent' to access that file.
Type 'm message_number'  to send that message.
EM+   i unsent    will retrieve message
```

Sending a Message

When you are finished creating and modifying your message, type *s* or *send* to post it. Selecting **send** is the most common way of ending the mail creation and sending process. It also returns you to the **EM** command prompt. For example:

```
abort, display, help, include, justify, message, modify, receipt,
       save, send, userinfo, whoto:      s
engel - sent
smith - sent
```

EM+

Message Headers

When you read a message, it is identified by number and always starts with the information: date and time of mailing, sender, recipient, subject and status (whether it is new or old, read or not read). These lines are known as the message "headers".

Getting User Information

Use **userinfo** to display information about users and user groups. **Userinfo** allows you to find user login names and to verify that the login names used in your header are correct.

Userinfo has its own prompt. Respond to the prompt by entering one of the following:

- the user's exact login name or exact personal name
- a portion of the login name or personal name
- an asterisk (*), which gives information on all users.

The following example is a request for all users with the letters "eng" in their user information.

```
abort, display, help, include, justify, message, modify, receipt,
       save, send, userinfo, whoto:      u
         User name (* for all users) :   eng
USER ID          USER NAME
soft-eng-news    (System mail group)
                 murphy, jones, lewis, conners
engel            Gary Engel
abort, display, help, include, justify, message, modify, receipt,
       save, send, userinfo, whoto:
```

Displaying Addressee

Use **whoto** to display fields in the header that show who will receive the message. For example:

```
abort, display, help, include, justify, message, modify, receipt,
       save, send, userinfo, whoto:      w
SENT TO : engel
COPY  TO : smith
abort, display, help, include, justify, message, modify, receipt,
       save, send, userinfo, whoto:
```

Other EM Operations

Indexing Mail

To display a list of the contents of the current mail file, use the **index** command by typing *i*. This is shown in the following example.

```
EM+  i
From:      To:        Date:          Subject:                      Lines:
1 gww      abraham    2 Aug 88   RO  July Monthly Reports Due        5
2 wss      engel      6 Aug 88   RO  Re: Problem in qprinting        4
3 gww      abraham    6 Aug 88   RO  IIS freeze and database up      9
4 howland  engel      7 Aug 88   RO  Fw: Help on the IIS Guid       10
5>engel    engel      8 Aug 88    N  Post Office                     3
6 engel    engel      9 Aug 88    N  Raving about EM, the pon       12
EM+
```

Index lists each message in the mail file, usually in the order received, so that the latest message is listed last.

Index Fields

Each message is numbered. Use the message number(s) to specify which message(s) a command is to act upon. The pointer (>) to the right of a number indicates the current message. This is the message that is acted upon if no message number is given.

The following table summarizes the index fields.

Index Fields

Index Field	Description
(field name)	message number; shows current message
From:	who sent the message, or who forwarded it
To:	primary recipient
Date:	date sent, or date forwarded
(status)	message status: **C** =conference; **R** =read; **N** =new; **O** =old; **P** =return receipt requested and not yet sent
Subject:	subject line of the message header
Lines:	number of lines in message field
(Tag:)	(optional) comment or code

Table 2

The login name listed in the **From:** column refers to the originator of the message. The name in the **To:** column is the primary recipient, or the first person in the **To:** list of the message. The **Date:** column refers to the date the message was mailed. The next column contains one of the following letters or letter pairs: **N** for new messages received since you last logged in to your DGIS account, **O** for messages that were received earlier that have not been read, **R** for messages read during the current login session, and **RO** for messages received and read at an earlier login. The **Subject:** column contains a truncated version of the messages subject field. If the subject is preceded by an **Fw:**, this indicates that the message was forwarded. An **Re:** at the beginning of a subject field indicates that the message is a response to another message. The **Lines:** column indicates the length of the message.

Reading Mail

Use the **read** command to read mail. Upon entering your default mailbox, you can type *r* or *read* to begin reading your new mail, starting with the earliest new message. If a message requires a return receipt, it is sent to the sender automatically when you read the message, as is the case in the following example.

```
EM+  r
Message 2.

SUBJECT          : Raving about EM, the pony express, and the Post Office
SENT BY          : engel (Gary Engel)
DATED            : 15 Aug 1988 at 1123 PDT
SENT TO          : engel
COPY TO          : smith
RETURN RCPT TO   : engel
STATUS           : new, not read, receipt requested

EM revolutionizes communication.   Wait until everyone uses it.
The Post Office as we know it will be just like the pony
express.   The pony express was a mail system of the American
West that flourished briefly circa 1860.   It used relays of riders
and ponies to hasten mail delivery west of St. Joseph,
Missouri. The U.S. Post Office Department was created in 1789
and in 1970 was renamed the U.S. Postal Service.
(Sending receipt to engel)
engel - sent
smith - sent

***** New mail has arrived.  Type 'n' for new mail. *****
EM+
```

New Mail

If you receive new mail while you are logged into EM, you will receive a message like the one at the end of the previous example. Type *n* to incorporate the new mail into your message list. If you then enter *i* to look at your index, the new message will be added to the bottom of the list. This is illustrated in the following example.

```
EM+ n
1 message, number 3, added to index list.
EM+ i

From:       To:      Date:            Subject:                      Lines:
1 engel     engel    15 Aug 88   RN   Post Office                     3
2>engel     engel    15 Aug 88   RN   Raving about EM, the pony       11
3 engel     engel    15 Aug 88   RN   RCPT: Raving about EM, th       1

EM+ r 3
Message 3.
SUBJECT     : RCPT: Raving about EM, the pony express, and the Post Office
SENT BY     : engel (Gary Engel)
DATED       : 15 Aug 1988 at 1124 PDT
SENT TO     : engel
COPY TO     : smith
STATUS      : new, not read
Your message was read on Thu Aug 15 11:24:27 1988
EM+
```

Long Messages

Long messages are "paged." This means that only enough information to fit on a screen (24 lines) will be displayed at a time. You will be asked to hit the <SPACEBAR> to see the next page (screen) of the message or to hit the *q* key to stop reading the message and return to the **EM+** prompt. You can also enter a <RETURN> to have the message scroll up only one line.

If you do not want your messages to be automatically paged, you can disable paging by entering *pipe r* at the **EM+** prompt. Paging will be disabled for the duration of your EM session unless you enter *pipe r more* to start it up again. If you leave **EM**, your messages will be automatically paged the next time you log into **EM**.

Answering Mail

To answer mail, type *a* at the **EM+** prompt if you have just read the message or if it is the current message. Otherwise, type *a* followed by the message's number.

Answer automatically uses the **Subject:** field of the message being answered as the response message **Subject**; placing a **Re:** before it. It prompts you to enter **To:** and **Cc**: information, and displays defaults for each. The default of the **To:** field is the sender of the original message. The default of the **Cc:** field is the contents of the original message's **Cc:** field. To use a default, type an asterisk (*) in response to the prompt. Otherwise, enter new contents or press <RETURN> to leave the field blank. Enter * and additional names to send the answer to those in the default list as well as others.

You can then type in your response, and send it, as shown in the following example.

```
EM+ a  2
Answering message 2
Current TO field:  engel
Current CC field:  smith
(Type '*' for current)
To: *
Cc: *
Type message, end with <CTRL>C <CTRL>C:
Why the change in 1970?
^C^C
abort, display, help, include, justify, message, modify, receipt,
    save, send, userinfo, whoto:     #
engel - sent
smith - sent
*****New mail has arrived.  Type 'n' for new mail.*****
EM+
```

The response message contains an extra field, **Orig By**, and the **Re:** in the **Subject:** field to indicate that it was created through the **answer** command.

Forwarding Mail

Use **forward** to send a copy of a message to other users. Type a small *f* to forward a message with a comment; use a capital *F* to forward a message without a comment. Both *f* and *F* prompt you for the **To:** field, where you list the users you want to receive the forwarded message. **Fw:** is added to the front of the message's **Subject:** field to indicate that it is a forwarded message.

If you use **F**, the message is forwarded automatically after you complete the **To:** field. If you use *f*, the prompt **Type message . . .** will appear after you complete the **To:** field. Enter your comment, then press *<CTRL>C <CTRL>C* at the beginning of a line to see the message option prompt. At this point, you can display and modify your comment or address list if needed. Message number *4* is forwarded to *engel* in the following example.

```
EM+     f 4
To:     engel
Type your forwarding comment.
Type message, end with <CTRL>C <CTRL>C:
Don't know!  ^C^C
abort, display, help, include, justify, message, modify, receipt,
       save, send, userinfo, whoto:     #
Forwarding message 4.
engel - sent
```

Deleting and Undeleting Mail

Use **delete** to remove unwanted messages. Use **undelete** to restore deleted messages. However, once you leave **EM** or change mail files, you cannot undelete a message. Both **delete** and **undelete** act upon the current message if no message number is specified.

As long as a deleted message can be undeleted, **index** continues to show its number followed by ****deleted****. For example:

```
EM+  d 5-6
Deleting message 5.
Deleting message 6.
EM+ l
From:     To:     Date:          Subject:                          Lines:
1 engel   engel   15 Aug 88   RN   Post Office                        3
2 engel   engel   15 Aug 88   RN   Raving about EM, the pony express, 11
3 engel   engel   15 Aug 88   RN   RCPT: Raving about EM, the pony    1
4 engel   engel   15 Aug 88   N    Re: Raving about EM, the pony ex.  1
5 **deleted**
6 **deleted**
EM+ u 5
Message 5 is now undeleted.
EM+ l
From:     To:     Date:          Subject:                          Lines:
1 engel   engel   15 Aug 88   RN   Post Office                        3
2 engel   engel   15 Aug 88   RN   Raving about EM, the pony express, 11
3 engel   engel   15 Aug 88   RN   RCPT: Raving about EM, the pony    1
4 engel   engel   15 Aug 88   N    Re: Raving about EM, the pony ex   1
5>engel   engel   15 Aug 88   N    Fw:Re: Raving about EM, the pony   7
6 **deleted**
EM+
```

Saving Mail and Creating Mail Files

Use **save** to store messages in a mail file and delete them from the current one. If you do not specify a mail file, the messages are saved in the default file for saved mail, called 'mbox'. If the mail file doesn't already exist, a prompt asks you to confirm the file's creation.

```
EM+  save
Save file  ~/mbox does not presently exist.
Type 'y' to create it, else RETURN:  y
Message 1 deleted after being saved on file /b/staff/engel/mail/mbox.
EM+
```

Using *S* instead of *s* allows you to save a message in another mail file without deleting it from the current one.

Listing and Switching Mail Files

To see a list of all your mail files, type *l* for the **list** command. For example:

```
EM+  l
The following files contain mail messages:
In directory  '/b/staff/engel/mail':
august   mbox   sentmail
EM+
```

To move to any mail file but the default file, type *index* followed by name of the mail file you want to switch to. Using a capital *I* instead of a small *i* switches mail files and lists the new mail file's contents as well. Use *n* to return to the default mail file. For example:

```
EM+     r mbox
Switching to file 'mbox'.
You have 1 message.
From:      To:       Date:              Subject:    Lines:
 1 engel   engel     15 Aug 88    N     Post Office    3
EM+  n
Switching to usual mail file.
You have 3 messages.
EM+
```

Accessing Information In Mail Files

Order, pull, and **reverse** make it easier to retrieve information from a mail file. **Back** ends a **pull** session. The examples below illustrate these commands.

Order

Order allows you to sort messages in the file by any of the following fields: **Cc, Date, From, Subject, Tag,** or **To** . Type an *o* for *order,* and then use the field's complete name, in lower case, or its initial letter (*ta* for *tag*).

For example, you might want to retrieve information in a message sent to you by a particular person. Using **order** simplifies accessing the message, especially if the file is a large one. For example:

```
EM+  o f
Ordering by field f.
Ordering complete.
EM+  l
  From:         To:       Date:          Subject:                      Lines:
 1 abrahams    wade      12 Aug 88  RO   Answers to some of the pr     142
 2 burgher     wss       12 Aug 88  RO   RDIST                          20
 3 FORET       ENGEL      7 Aug 88  RO   EM Reference Card              23
 4 FRANK       SUTTERLI  9 Aug 88   RO   New Account for Gary Hn         8
 5 gww         engel     29 Jul 88  RO   patch(1N) installed.            0
 6 gww         draper    19 Aug 88  RO   Missing updated schedule.      30
 7 gww         abrahams  2 Aug 88   RO   July Monthly Reports due        5
 8 howland     staff     29 Jul 88  RO   Work schedule today             5
 9 jlt         burgher  13 Aug 88   RO   Re: RDIST                      18
10 mcb         abrahams  7 Aug 88   RO   Cleanup of IIS help file so    30
11 mcb         gww        9 Aug 88  RO   IIS help files moved to IIS     7
12 rel         tech-sta12 Aug 88    RO   A new version of LINK ha        4
13 wss         engel      6 Aug 88  RO   Re: Binary files in EM         26
EM+
```

Pull

Sometimes a mail file is too large to easily search. Then you can use the **pull** command to yank a subset of messages from the file into a temporary file where searching is easier.

To use **pull,** first determine which field you want to pull. It can be any of the fields listed in the above **order** listing, except the **To** : field. Next determine what pattern in that field will limit the messages pulled to those that you want. For example, if the field is **From** :, the pattern could be *gww.*

In the following example, all of the mail messages sent by *gww* and received by *engel* are pulled out into a separate list.

```
EM+ p from gww
Pulling by field 'from'.
Searching for data 'gww'.
Scanning mailbox '/b/staff/engel/mail/sort'.
3 items found.
Switching to temporary file.
Type 'b' to return to original file '/b/staff/engel/mail/sort'.
  From:   To:         Date:          Subject:                  Lines:
1 gww     abrahams    2 Aug 88   RO  July Monthly Reports due      5
2 gww     draper     19 Aug 88   RO  Missing Updated Schedule.    30
3 gww     engel      29 Jul 88   RO  patch (1N) installed.         0
EM+ b
Switching back to mailbox '/b/staff/engel/mail/sort'.
EM+
```

While the temporary mail file exists, all **EM** commands work in it as they would in any other mail file. When you are finished with the temporary file, type *b* or *back* to return to your original mail file. The temporary mail file will be removed, but the messages will not have been deleted from the original mail file.

Reverse

You can type *rev* or *reverse* to reverse the order of an index display. The index shown in the **order** option section is reversed in the following example.

```
EM+ rev
Message order is now reversed.
EM+ i
  From: To:       Date:          Subject:                    Lines:
 1 wss   engel     6 Aug 88   RO  Re: Binary files in EM        26
 2 rel   tech-sta 12 Aug 88   RO  A new version of LINK ha       4
 3 mcb   gww       9 Aug 88   RO  IIS help files moved to IIS    7
 4 mcb   abrahams  7 Aug 88   RO  Cleanup of IIS help file so   30
 5 jlt   burgher  13 Aug 88   RO  Re: RDIST                     18
 6 howland staff  29 Jul 88   RO  Work schedule today           5
 7 gww   abrahams  2 Aug 88   RO  July Monthly Reports due       5
 8 gww   draper   19 Aug 88   RO  Missing updated schedule.     33
 9 gww   engel    29 Jul 88   RO  patch(1N) installed.          0
10 FRANK SUTTERLI  9 Aug 88   RO  New Account for Gary En       8
11 FORET ENGEL     7 Aug 88   RO  EM Reference Card             23
12 burgher wss    12 Aug 88   RO  RDIST                        20
13 abrahams wade  12 Aug 83   RO  Answers to some of the pr    142
EM+
```

You can use *rev* again to reverse the reverse.

Maintaining and Deleting Mail Files

Use **delete** and **save** on a regular basis to maintain your default mail file so that it never becomes cluttered or too large.

About once a month, access your other mail files and delete messages that you no longer need. You might then archive the mail file as shown below. Save all messages from one file to another with a name that suggests its contents. At a later date, you might delete the entire mail file. Use **list** to verify that the file has been archived.

```
EM+  f mbox
Switching to file 'mbox'.
You have 3 messages.
EM+  save 1-3 junembox
Save file junembox does not presently exist.
Type 'y' to create it, else RETURN:     y

Message 1 deleted after being saved on file /b/staff/engel/mail/junembox.
Message 2 deleted after being saved on file /b/staff/engel/mail/junembox.
Message 3 deleted after being saved on file /b/staff/engel/mail/junembox.
EM+ list
The following files contain mail messages:
In directory  '/b/staff/engel/mail':
august   junembox   sentmail
EM+
```

To delete a mail file, use the **delete** command followed by the mail file name:

```
EM+  delete junembox
Delete file junembox (yes/no)?     y
Mail file 'junembox' removed.
EM+
```

Identifying Users and Mail Groups

Use **who** and **group** to identify system users and mail groups just like you used the **userinfo** option of the message edit prompt. A mail group permits mail to be sent individually to several users simply by using the group name. Mail groups are either system-wide (available to all users) or private.

Typing *who* alone displays an alphabetical list of all system users and system-wide mail groups. This list is sorted by login name. Each user's full name is provided.

Typing *who* followed by a pattern of characters restricts the list displayed to those users and mail groups that contain that pattern. The pattern may include a "?" to match any single character or an "*" to match any string of characters. For example:

```
EM+    w ab?
USER ID          USER NAME                      ORGANIZATION
yatabe           Maggie Yatabe                  ABC
abrahams         Seth Abrahams                  DEF
ingres           INGRES Database Administr
rtingres         RTI INGRES Database Admin

EM+
```

Typing *group* alone displays a list of the names of all system-wide mail groups and of your private mail groups. Typing *group* followed by one or more group names displays a list of the members of the groups. Note that the group names must be typed correctly to see a display of their members.

```
EM+  group usenet
System mail group usenet:
kiessig mcb
EM+
```

Checking if Electronic Mail is Read

To see if someone has been checking their e-mail, use the Check Command.

```
Electronic Mail: Version 6.9.3

Type 'h' for help.

.....................You have 976 messages (4 new).

MM+ ch jsmith
Mail statistics for user jsmith
    Mail file last modified on: Wed Sep  1 10:29:59 1993
    Mail file last read on:     Wed Sep  1 08:13:56 1993
```

Creating a Private Mail Group

If you will regularly send messages to a specific group of users, you can create a private mail group so that you can avoid entering each user name every time you need to send a message to the group. To do this, you must have a special **UNIX** file named '**.emgr**' . The name of each group that you want to use must be listed in the file followed by a listing of the users in the group.

Use the Vi, Ex or Emacs editor to create your '.emgr' file. Enter the group name followed by a colon. User names should be separated by commas. A <RETURN> signals the end of a mail group. You can still create large mail groups, but you must avoid hitting the <RETURN> . Just let the cursor advance to the next line on its own. An example of a '.emgr' file with three mail groups follows.

```
gusto:tconry,gottesma,knoble
sanfran:murphy,jones,smith,lewis,kennedy,taylor,
johnson,carter
preview:smith,connors,gusto
```

CHAPTER 5 - COMMUNICATIONS

DGIS serves as a gateway to a variety of other computer systems. It also streamlines the operations you would normally have to remember to access each system. Not only can DGIS connect you to remote systems, it can capture data from them for later processing, (see the chapter 8, Bibliographic Post-Processing,) and log you out, closing down the connection.

CONNECTION FEATURES

AVAILABLE SYSTEMS

DGIS is a flexible gateway that can access almost any computer system that is available on **Tymnet, Sprintnet,** or any of the commercial networks and **Internet** or through direct dialing. In the case of highly used systems (e.g., **DIALOG**), it can automatically connect to them and log you in.

DOWNLOADING SEARCH RESULTS

Once DGIS has connected you to a system and you have conducted a search and located information, you can easily download (or store) those results in DGIS. Later, you can process the results (using the DGIS post-processing features) and print them at your terminal as well as save them for future use.

SIMULTANEOUS DOWNLOADING

DGIS has the ability to download and process data simultaneously from several different computers. This powerful and complex feature is discussed in a later section of this chapter.

DISCONNECTING

When you have finished your work on the remote computer and logged out, DGIS can close down the telecommunications link and return you to DGIS.

COMMUNICATIONS MENU

To get to the Communications Menu, select *2* or *communicate* from the Main DGIS menu:

COMMUNICATIONS

DGIS will automatically connect you to a wide range of remote information systems and to other people online the DGIS. For information systems, you must have already registered with these systems and have provided DGIS your access passwords or have a **Master Account** with DTIC such as SearchMAESTRO. See Appendix F.

```
      >>>>>>>>>ASSISTED SEARCHING
* 1       assist              Search interfaces menu.
      >>>>>>>>>NON-ASSISTED SEARCHING
  2         connect           Auto-login to remote systems
  3         systems           List of systems with auto access.
  4         dial              Unassisted dial into other systems.
      >>>>>>>>>OTHER COMMUNICATIONS
  5         people            Communicate interactively with  DGIS  users.
  6         order             Order documents, articles, etc.
  7         bbs               Bulletin Board Systems
  8         Internet          Internet access menu
Enter a menu number, a command, "b" to backup, "t" for top, or  "e" to
end:
*
```

MENU OVERVIEW

The Communications menu offers all of the major communications features in the DGIS system. These utilities provide ways to communicate with information systems and people. DGIS also offers a document ordering capability, both to order from DTIC and commercially. The Communications menu is divided into three parts. **Assisted Searching**, **Non-Assisted Searching**, and **Other Communications**. These are described in detail below:

ASSISTED SEARCHING

DGIS will offer a number of interfaces to make searching of diverse databases easier, at varying levels of search expertise. These interfaces include:

```
*1  ccl             Common Command Language
 2  maestro         SearchMAESTRO - menu driven searching

Enter a menu number, a command, "b" to backup, "t" for top, or  "e" to
end:
*
```

Assisted searching uses search interface tools to help you conduct a search in a remote computer. Such tools reduce the need for you to know the specific command language of the remote computer system. DGIS offers two interface tools: **CCL** and **SearchMAESTRO**. The **Common Command Language (CCL)** enables users to search five different databases (**DIALOG**, **DROLS**, **BRS**, **NASA-RECON** and **ORBIT**) without having to know the unique search strategies of each database. **CCL** provides one common search language. **SearchMAESTRO** is a search interface tailored for the Department of Defense end-user community by Telebase/ EasyNet. This interface was incorporated into DGIS as a means for casual or novice end-users to search over 800 databases on 12 vendor systems without needing to know how to search each information system. It is a tool to help novice bibliographic database searchers find a sampling of relevant citations with a minimum of user input. **SearchMAESTRO** will select the most appropriate databases to search or you can select the database. It sends the appropriate commands to perform the searches and downloads citations.

SearchMAESTRO includes accessing **DROLS** in the same manner that it accesses all other systems and provides automatic access to those databases on the vendor systems that require public access authorization by the producer. As with all cost-incurring systems, the user must have authorization to use **SearchMAESTRO.** Please refer to chapter 12 on **SearchMAESTRO** for more information about **SearchMAESTRO.** See chapter 7 for further information about the Common Command Language.

NON-ASSISTED SEARCHING

Using non-assisted searching in DGIS implies that the user knows the native command languages of the remote vendor systems. You can reach many different systems through DGIS, through the auto-login feature or through direct dial.

CONNECT COMMAND

With the auto-login feature, DGIS can automatically connect you to or log you in to one of the many different supported systems as long as you register your vendor login information for each system on which you have an account. To do this, contact the DTIC Registration DTIC-BCS (703) 274-7709.

The **connect** feature validates the user's access, establishes the connection to the remote system via various routes such as **TYMNET, SPRINTNET, INTERNET,** or commercial dial methods, and logs the user into the requested system.

The number of systems to which each DGIS user has auto-login access is dependent on which ones they have registered with **DTIC.** To see a listing of the systems with which your account is registered, type the command *connect* or choose option *2* from the Communications menu. You will see a listing that resembles the following:

CONNECT

You are allowed to access the following resources:

```
brs             lexis           questel
dial            maestro         stn
dialog          nasa-recon      sprintnet
drols           newsnet         tymnet
iod             nexis           usni
orbit                           wilsonline

Please enter an information system name, or q to 'quit' to return to
menus
*
```

From the list above, choose the system that you want to access and enter its name at the menu prompt. DGIS will automatically connect and log you into it. Once connected, you can conduct your search, then capture the results into DGIS for later processing. Additional information about capturing and downloading citations, using interrupt commands, and other hints are discussed later in this chapter.

CONNECTING TO DROLS

There are four (4) login codes when logging into the **DROLS** system:

1. sign-on id code
2. **DROLS** password
3. deposit account number
4. terminal identification

With a valid **DROLS** account, you can access the system with direct dial or with the DGIS auto-login feature, or through **SearchMAESTRO**.

SYSTEMS COMMAND

To see a listing of **ALL** the systems to which DGIS has automatic access, type the command *systems* or choose option *3* from the Communications menu. These systems are categorized as Multi-type, Factual and Numerical, News-related and Other. Presently, the systems available include:

```
maestro          SearchMAESTRO - menu driven search  interface.
```

MULTI-TYPE INFORMATION SYSTEMS

```
assets           Office of Naval Research (London)  databare.
brs              BRS/Search Service.
data-star        Radio Suisse Services.
dialog           DIALOG Information Systems.
dowjones         Dow Jones News Retrieval.
drols            Defense RDT&E On-Line System.
matris           Manpower & Training Info System.
nasa-recon       NASA/RECON System.
orbit            ORBIT Search Service.
stn              STN/Chemical Abstracts System.
usni             US Naval Institute/Periscope Databases.
wilsonline       H. W. Wilson Search Service.
```

FACTUAL AND NUMERICAL INFORMATION SYSTEMS

```
cdmd             Chemical Defense Materials Database.
cindas           Center for Information & Numerical Data Analysis &
                  Synthesis.
circ             Central Information Reference and  Control.
darc             Questel Chemical Nomenclature/Structure  System.
lexis/nexis      Mead Data Central Full text News and Legal  Database
                  System.
questel          Questel - French Information System.
fois             Fiber Optics Information System (FOIS).
sia              Superconductivity Information System.
```

NEWS-RELATED INFORMATION SYSTEMS

```
newsnet          Newsnet.
```

OTHER

```
dial             Dial to a system with a user-entered phone  number.
tymnet           Connect to the TYMNET value-added  network.
sprintnet        Connect to the SPRINTNET value-added  network.
```

See appendix F, Vendor Information for more information about how to contact any of the vendors listed above.

DIAL COMMAND

DGIS has the ability to connect you to any computer that can be dialed through commercial telephone lines. Although DGIS cannot log you into a system which was accessed with the **dial** command, you can still capture data, store it in the DGIS computer and operate on it later using the DGIS post-processing tools.

In order to have DGIS directly dial another system, you must know the phone number of the system. In addition, you will have to know how to log into the system and search it using its commands.

After you select the *dial* command from the Communications menu, DGIS will prompt you for the number to dial, and other necessary information as follows:

The following options are available:

```
The following options are available:
   phone number                          (do not dial 9 before number,
                                          but prefix all area codes with 1)
   baud rate      (-300 -1200 -2400)     (default is -1200)
   parity         (-even -odd)           (default is no  parity)
   duplex         (-half -full)          (default is -full)

   Example:
   Local number:      333-3333 -2400 -even -half
   With area code:    1-301-333-3333 -2400 -odd -full

Type the appropriate options, separated by spaces, or "q" to  quit.
* 1-212-123-4567 -2400 -even
```

ENTERING A PHONE NUMBER

To have DGIS dial a phone number, you must enter the entire number (including area code if necessary). In addition, you may have to enter several additional pieces of information depending on your communications requirements. If you do not specify any other options, DGIS will assume certain (default) values.

PHONE NUMBER FORMAT

You can enter the phone number using hyphens. Parentheses and blank spaces cannot be used. For example, to have DGIS dial the number 1-212-123-4567, you would enter: 1-212-123-4567. Additional options follow the number. They must be separated by spaces.

BAUD RATE

DGIS normally establishes connections at 1200 baud. In order to establish a 300, 2400 or 9600 baud connection, you must include the string: **-300** or **-2400** or **-9600** after the phone number.

PARITY

DGIS accepts any parity. However, if you need to force the parity to a specific setting, include *-even* or *-odd* after the phone number. If you do not specify parity, DGIS assumes no parity.

DUPLEX

DGIS normally communicates at full duplex (the remote computer echoes back the characters you enter). This is the normal setting for most computer systems. To turn this off, change the value to half duplex by entering *-half*.

UNASSISTED DIAL EXAMPLE

The following example demonstrates how DGIS would look if a user tried to have DGIS dial a computer in New York (1-212-123-4567), and communicate at 2400 Baud, full duplex, and even parity. After the dialing information is entered, DGIS periodically reports its progress. Once it is connected, you will probably have to enter one or two <RETURN>s to get the login banner from the remote computer.

The following options are available:

```
The following options are available:
   phone number                          (do not dial 9 before number,
                                          but prefix all area codes with 1)
   baud rate      (-300 -1200 -2400)     (default is -1200)
   parity         (-even -odd)           (default is no  parity)
   duplex         (-half -full)          (default is -full)

   Example:
   Local number:       333-3333 -2400 -even -half
   With area code:     1-301-333-3333 -2400 -odd -full

Type the appropriate options, separated by spaces, or "q" to quit.
* 1-202-707-4888

Type "<ESC><CTRL>D" to disconnect from system and return to DGIS menu.

Attempting network connection to modem 2400
Connection established to modem 2400
Number is 9,12027074888
Dialing.... Dialing done.
   <RETURN>
```

LOGGING OUT

DGIS cannot automatically log you out of the remote computer when using the **dial** command since it does not know the details of that computer. It can only hang up the phone. Therefore, you must follow the appropriate logout procedures for the remote computer in order to properly end that session.

CLOSING THE CONNECTION

Once you log out of the remote computer, you must tell DGIS to close the connection (hang up the phone). To do this enter <ESC><CTRL>D.

INTERRUPT COMMANDS FOR COMMUNICATIONS

Once you have connected to a remote system, you can still have DGIS help you. Specifically, you can capture results from the remote system into a DGIS file, send a DGIS file to the remote system, and terminate the telephone connection. Several other actions are also available. To see a menu of interrupt commands, press your <ESC> key while connected to a remote system, wait a few seconds, and a prompt will appear. If you then type ?, a list of possible commands will display.

Interrupt Command Summary

Command	*Action*
<CTRL>A	Begin/halt download
<CTRL>B	Upload file
<CTRL>D	End connection
<CTRL>Z	Temporarily interrupt remote session
<ESC>	Send an <ESC> to remote computer
<BREAK> or #	Send a <BREAK> to remote computer
<RETURN>	Return to current connection
?	See list of possible <ESC> commands

Table 3

SEND AN ESCAPE

Enter *<ESC><ESC>* to send an **<ESC>** to the remote computer. Some systems require that you send an **<ESC>** as one of their commands.

SEND A BREAK

Enter *<ESC><BREAK>* to send a **<BREAK>** to the remote computer. Some systems enable you to interrupt your current operations by sending a **<BREAK>**. Note: if **<BREAK>** means something else to your particular PC software, you can use *<ESC>* # instead to send a **<BREAK>** to the remote system.

OTHER COMMUNICATIONS

PEOPLE

DGIS provides several features that enable you to communicate directly with other users who are logged onto the DGIS computer at the same time. With them, you can interactively **"talk"** with other users by typing a message on their screen, as well as **link** with them to let one person observe the other. In this way, DGIS users can network and communicate with each other, transfer and process information together.

Select option *5* or *people* from the Communications menu to receive the Communicate Interactively with DGIS Users menu:

COMMUNICATE INTERACTIVELY WITH DGIS USERS

"Talking" allows two online users to "talk" to each other via their terminals.

"Linking" allows two or more terminals to tie into one designated master terminal to process information together.

```
1       whoson      List of people currently logged in.
2       userinfo    Detailed information on a particular user.
3       link        Link two or more terminals to one account.
4       talk        Talk simultaneously on the terminal with another.
5       message     Block or allow the receipt of 'talk' messages.
Enter a menu number, a command, "b" to backup, "t" for top, or "e" to
end:
*
```

WHOSON

When you select the *whoson* option, DGIS will display information about the current users of the computer. The name is the login name of the user. The port number may be important if the person is logged in more than once. (This is unusual, but possible on DGIS.) If that is the case, when you attempt to **talk** or **link** with the user, specify the port number in addition to the name of the user.

```
Name:           Port:           Logged on at:
cook            ttyh8           Jan 20, 10:26
fenner          ttyh0           Jan 20, 11:06
gottesma        ttyj9           Jan 20, 10:52
bgrover         ttyp0           Jan 20, 11:06
clucas          ttykf           Jan 20, 07:58
Enter  <RETURN> to continue
```

USERINFO

When you select the *userinfo* option, DGIS will prompt you for the name of a specific user, and then display the mailing address, and phone number of the user whose name you entered.

USER INFORMATION SEARCH

This option searches for user information. Enter a string of information, such as last name, organization symbol, etc., to retrieve the user information. Separate multiple searches by a space.

NOTE: Character case (upper/lower) does not matter. If string contains spaces, enclose entire string with " ".

```
Enter string, or 'quit':
* momara
Searching. . .
Name:       Marie T. O'Mara (momara)
Org:        Defense Technical Information Center (DTIC)
Addr:       DTIC-BLN
City:       Alexandria   State:   VA
Zip:        22304
Phone:      (703) 274-7791
            DSN 284-7791
Enter string or 'quit':
*
```

If you want an alphabetical listing of all DGIS users, type the command *userlist*, which is described in the chapter "Using DGIS".

LINK

The **link** feature is predominantly a training tool. If you are having a problem using DGIS, the DTIC Training staff (703-274-7791) may choose to link to your terminal to show you how to perform a DGIS operation. Therefore, it is important for you to understand how to respond to a request to link. This is demonstrated in the following example. When someone is attempting to link to your session, you will see the following:

```
Message from Link-Daemon@ at 11:39 . . .
connection requested by gottesma@ tty1f.
respond with:  link gottesma@ tty1f.
link gottesma
```

Enter the login name of the person requesting the link. In most cases, you will only need to enter the login name. **Do not respond to a link request from someone you do not know!!**

Type the user name you wish to link to, or type 'quit' to quit, 'whoson' to get a list of users logged in.

```
* gottesma

Type 't' for teacher, 's' for student, 'r' to reply to a link  request,
or 'quit'.
r
```

Enter *r* to indicate that you will be replying to a link request.

```
Link session is being established.  To exit the link session type exit
If you need help, you can type the ~ key followed by the word help
Link mode initiated as participant, escape is '~'
Link established with gottesma @tty1f
DGIS[1]%  DGIS
```

(You will now see the features that the instructor wants to demonstrate)

```
DGIS[2]%  exit
Link mode terminated
All Done!
Enter <RETURN> to continue
```

Much of the information that appears in the above box will disappear from your screen so quickly that you will not see it. Do not worry. The purpose of link is to instruct, so the instructor will be entering the most complicated commands. It is, however, important for you to understand that you will see the **UNIX** prompt (DGIS[x]%) once the link is established. The instructor will enter DGIS to enter the menus. In some cases, the instructor will be demonstrating a **UNIX** command and will not need to use the DGIS menus.

TALK

The **talk** feature enables you and another user to carry out a written dialogue while you are both logged into DGIS. Either user can begin the written dialogue. Similarly, either user can terminate the communication. (**Talk** will not work if your terminal type is unknown or set as a "dumb" terminal).

SEQUENCE

After you select *talk*, DGIS will prompt you for the login name of the person with whom you want to talk. (You can get this from the **whoson** menu option. If the user is logged on more than once, DGIS will prompt you for the actual port number of the user.) DGIS will then break the screen into two portions. Everything that you enter will appear in the top half of the screen regardless of who initiated the connection and everything that the person with whom you are talking enters will appear on the bottom half of the screen, just below the dashed line that breaks the screen into two portions. Once a talk session has begun, you can either talk to each other one at a time or at the same time. As with any conversation, it is better to talk alternately, and it is a good idea to type an *-o-* after you are finished typing to signal the end of the current piece of the message. The person who starts the dialogue types first, then the other user responds, and so forth, until one of you decides to end the session. If, however, you want to interrupt the person with whom you are communicating, you can simply start to type. You will see the cursor jump back and forth between your part of the screen and the other user's part of the screen. This has no effect on the transmittal of the message.

ENDING A LINE

To signal the end of a message line, you might want to enter *-o-* (for "over") to tell the other user to go ahead. This is not necessary and will have no effect on the connection. It is recommended only as a courtesy.

ENDING THE SESSION

To completely end the **talk** session, either user can enter a *<CTRL>C*. DGIS will notify the other user that the session is over:

```
***Connection broken by gotteama***
```

Talk Initiator Example

To initiate a **talk** session, enter *talk* at the prompt. You will be prompted to provide the name of the user with whom you wish to communicate. You will also be provided the opportunity to enter *whoson* to see a list of users currently logged into DGIS. This example shows what the talk initiator will see. The "Responder Example" shows the screen as the "talk responder" will see it.

```
* talk
Type the user name of the person that you wish to write to.
Type 'quit' to quit, 'whoson' to get  list of users logged in.
* gottesma
To end communication, type a  <CTRL>C.
```

At this point, your terminal will be divided into two separate portions. The following example shows the screen as the "talk initiator" will see it. The message typed by the initiator appears in the top portion of the screen and the message typed by the responder appears in the bottom portion of the screen.

```
[Waiting for your party to respond]
[Connection established]
Kay, I'm searching Dialog and don't remember how to capture
my results into a DGIS file.  I'm sure there must be a way.   Bonnie -o-
Kay - thanks, I'll have that file processed in a flash,
using the DGIS post-processing features.  Bonnie -o-
Kay - so long.  Bonnie    <CTRL>C
Bonnie- press the 'ESC' key and then hold down the 'CTRL' key
while you press the 'a'.  You will be prompted for
a name for your file.  Kay -o-
Good Luck -o-
Enter  <RETURN> to continue
```

RESPONDER EXAMPLE

To see what *gottesma*'s terminal would display in the dialogue from the previous example, see below.

```
Message from Talk_Daemon@DGIS at 11:47 . . .
talk: connection requested by bgrover@DGIS.
talk: respond with talk bgrover@DGIS
talk bgrover
```

As the responder, you should type only the login name of the initiator. It is not necessary to enter the @DGIS as indicated above. At this point, the responder's screen will be divided into two portions. The input typed by the responder appears in the top portion of the screen and the input typed by the initiator appears in the bottom portion of the screen.

```
Bonnie- press the 'ESC' key and then hold down the 'CTRL' key
while you press the 'a'.  You will be prompted for
a name for your file.  Kay -o-
 Good Luck -o-
Kay, I'm searching Dialog and don't remember how to capture
my results into a DGIS file.  I'm sure there must be a way.   Bonnie -o-
Kay - thanks, I'll have that file processed in a flash,
using the DGIS post-processing features.  Bonnie -o-
Kay - so long.  Bonnie
Enter  <RETURN>  to continue
```

PREVENTING TALK

Normally, you can "talk" to anyone on DGIS, and likewise they can "talk" to you. Depending on what work you are doing, a talk session could be disruptive. For instance if you are carrying out a search in a remote system, talk could be particularly disruptive and expensive. You can temporarily prevent anyone from talking with you by using the *message* command. Your change only lasts until you log out of DGIS, or change it back again.

MESSAGE

In order to disable talking, select the *message* option. DGIS will inform you of your current message status and ask if you wish to change it.

```
* Message
```

This option allows you to block 'talk' messages coming to your screen when you don't want to be interrupted. It also allows you to re-enable the receipt of 'talk' messages again by typing **message** command and turning it **on.** You will see the statement, "messages are currently turned on, would you like them turned off (y/n):" y "Messages are currently turned off."

```
Enter <RETURN> to continue
```

ORDER MENU

The order feature of DGIS gives the DGIS user the capability to order DTIC documents from DTIC directly and DTIC and other vendor documents through **GENIUS** (General Information On Demand User Services). DGIS batches the orders and sends them off several times per day.

GENIUS is a commercial ordering system tailored for DGIS by **Information On Demand (IOD)**, Inc. and requires user authorization for access. Please refer to the chapter "Order Documents" for more information about **GENIUS**.

Choose option *6* or *order* from the Communications menu:

ORDER

DGIS helps you order materials from DTIC and from **GENIUS**, a commercial service tailored for Department of Defense. Type **'help genius'** to get further information on ordering documents from **GENIUS**. Type **'help dtic'** to get further information on ordering DTIC documents directly from DTIC.

```
1       dtic        Order DTIC documents directly form  DTIC.
2       genius      Order all document types from GENIUS.
3       buyfile     Order full text from downloaded  citations via GENIUS.
4       trans       Order translations from GENIUS.
5       status      Find the status of a GENIUS order.
Enter a menu number, a command, "b" or backup, "t" for top, or  "e" to
end:
*
```

OTHER USEFUL COMMANDS

There are a number of other commands that are not shown directly on the Communications menu. These include commands for capturing and sending data and logging out of the remote system. These are described in more detail below.

DOWNLOADING AND UPLOADING

To capture the output from a remote system, into a DGIS file, enter *<ESC><CTRL>A*. Once you enter this, DGIS will prompt you for the name of the file in which to store the results, and then return you to the database you were searching.

```
Enter the name of the file to be used for output:
voyager
voyager is open for output.
Re-enter virtual terminal mode with nasa-recon.
```

If the file name you enter already exists, DGIS will ask if you wish to add the material to the end of the file (append) or to overwrite the file (erase the old contents). From the point that you begin downloading data until you end downloading, everything that is displayed on your terminal will be placed into the file.

END DOWNLOADING

To stop downloading, enter *<ESC><CTRL>A* a second time. DGIS will halt downloading into your file, without interrupting your connection to the remote computer. DGIS will also close your file if you disconnect from the system by entering *<ESC><CTRL>D*.

UPLOADING FILES OR SEARCHES

DGIS will also send files to another computer. However, you must know how to prepare the remote computer to accept incoming text. Sometimes this involves starting an editor on the remote system. However, most often this function is used to upload a pre-prepared search to a remote database. To upload a file, enter *<ESC><CTRL>B*. DGIS will then prompt you for the name of the file and inform you of its progress in sending the file with message like the following:

```
Enter the name of the file to send:  space.dia
      Sending . . .
File transmission complete.
Re-enter virtual terminal mode . . .
```

Using the upload feature on DGIS, you can upload a file containing the commands for a search to any system. Using your DGIS editor, you enter the search into the file exactly as you would normally type it into the system. Once you have created the search file, connect to the system and use the upload command to send the file to the system.

For further instructions on various methods of downloading to your PC and or your Macintosh, see Appendix K, Uploading and Downloading Data.

Ending the Remote Connection

If you enter *<ESC><CTRL>D*, while you are connected to a remote system, **DGIS** will terminate the connection (equivalent to hanging up the phone). In addition, if you have connected to a system using the auto connect feature (the **connect** command), you must use the interrupt command to end the session. When you enter *<ESC><CTRL>D*, DGIS will first log you out of the remote system, before terminating the connection. If you manually log yourself out of remote system after using auto connect, you will be disconnected but DGIS will not return you to the menus until you enter *<ESC><CTRL>D*.

Sometimes if you have already manually logged out, DGIS waits for a response to the logout commands it sent to the remote system that will never come. In that case, you can interrupt the **<ESC><CTRL>D** sequence with a **<CTRL>C**.

CAUTION

If you have used the DGIS **dial** command, rather than **connect**, DGIS will not log you out of the remote system. Rather, it will just end the connection; this is not advisable. In this case, you should first log out of the remote system prior to entering *<ESC><CTRL>D*. You will still need to enter *<ESC><CTRL>D* in order to return to the menus.

MULTIPLE OPERATIONS

DGIS enables you to carry on several operations at once. This is done by placing one or more jobs in the background. It is particularly useful in downloading files from several different remote computer systems. (It is more complex than other DGIS operations). There is some risk since it is possible to forget about one of the simultaneous operations running in the background. You must remember to end all of the processes before logging out.

To suspend an active job (or DGIS command activity) for a moment, press *<ESC><CTRL>Z* to return to the DGIS menus. While at the menu level, you can type the command *jobs* to see the status of any jobs you have suspended with the **<CTRL>Z** command. Remember that the job has only been suspended and is not continuing in background. The command *bg* allows the job to continue in background. You can bring a job back to interactive mode (its original state) before you pressed *<CTRL>Z)* by typing the **DGIS** command *resume*.

Note: If you attempt to exit the menus while a background job is still running, DGIS will alert you. <ESC><CTRL>Z is only used when suspending a remote session. For suspending other functions such as E-Mail, use <CTRL>Z.

BULLETIN BOARD SYSTEMS

The implementation of a new bulletin board system is underway. When it is available, an addendum will be mailed to all recipients of this guide.

INTERNET

INTERNET began as a federally-funded and designed system to allow Department of Defense (DoD) to communicate and share computer resources with the research and academic community. The INTERNET services include electronic mail, file transfer (FTP) and remote login to other computers (TELNET). Accessing INTERNET via Defense Data Network (DDN) requires knowing the addresses of systems being addressed. The INTERNET address of (DGIS) Department of Defense Gateway Information System is 131.84.1.2 or dgis.dtic.dla.mil.

```
                WELCOME TO THE DOD GATEWAY INFORMATION SYSTEM

        >>>>>>>>>>>INFORMATION TRANSFER MODULES

   1    directory      DGIS Directory of Resources
   2    communicate    Connect to Information Resources  and People
   3    process        Information product tailoring

        >>>>>>>>>>>INFORMATION UTILITIES
   4    em             Electronic Mail.
   5    files          File operations.

        >>>>>>>>>>>SUPPORT INFORMATION
   6    help           Description of features.
   7    users          DGIS registered users.
   8    info           DGIS news and information.
   9    utilities      Misc utilities, change passwd
  10    fulltext       Full text documents (CIM, DoD, etc.)

DGIS HOTLINE NUMBER:  (703) 274-7721  or (DSN) 284-7791
or send questions via DGIS EM to 'dgishelp'"
Enter a menu number, a command, "b" to backup, "t" for top, or "e"  to
end:
```

Select COMMUNICATIONS from the main menu

```
2    COMMUNICATIONS
       DGIS will automatically connect you to a wide range of  remote
information systems and to other people online in DGIS.  For
information systems you must have already registered with
these systems and have provided DGIS your access passwords.
  >>>>>>>>>>>>>>>ASSISTED SEARCHING
* 1    assist           Search interfaces menu.
  >>>>>>>>>>>>>>>NON-ASSISTED SEARCHING.
  2    connect          Auto-login to remote systems.
  3    systems          List of systems with auto access.
  4    dial             Unassisted dial into other  systems.
  >>>>>>>>>>>>>>>OTHER COMMUNICATIONS
  5   people            Communicate interactively with DGIS  users.
  6   order             Order documents, articles, etc...
  7   bbs               Bulletin Board Systems.
  8   internet          Internet access menu
Enter a menu number, a command, "b" to backup, "t" for top,  or "e"
to end:
* 8
```

```
2.8   Internet Access

          Internet communication and file transfer utilities.

      * 1   ftp              File transfer between Internet  hosts
        2   telnet           Connect to other Internet hosts
```

FTP (FILE TRANSFER PROTOCOL)

- obtain free copies of shareware software.
- gather resource documents on hundreds of subjects.

FTP is the ability to transfer a file from a remote computer connected to **INTERNET** without having an account on the remote computer. To connect to a remote computer offering anonymous FTP you can use the following commands:

```
Type: Computer address
When prompted for a userid: type anonymous
When prompted for a password:  type guest or your password
To get a listing of commands:  type ?
To get a listing of files:  type dir
To change directory:  type cd (directory name)
To get a file:  type get (filename)
To get a binary file:  type binary
To end session:  type quit

To retrieve the following file:

   Martin, J.,  There's Gold in Them Ther Networks! or Searching  for
Treasure in All the Wrong Places.  Request for Comments 1290,  December
1991.  (Available via ftp on host nic.ddn.mil, directory rfc:,  filename
RFC1290.TXT)

Enter:
nic.ddn.mil
Username:  anonymous
Password:  guest
cd rfc
get rfc1290.txt
quit
```

TELNET (REMOTE LOG-ON)

Telnet is the Internet protocol that allows you to connect to a remote host computer to use its resources such as library catalogs, freenets, free information databases and commercial services. ***Telnet*** is also the command used to initiate the connection to a remote computer over the Internet.

In addition to library catalogs, telnet provides the means to access commercial databases such as OCLC, EPIC, FirstSearch and DIALOG, reducing telecommunications cost for these services. Internet searchers can also reach Campus Wide Information Systems, Freenets and databases on a wide variety of topics.

```
EnTer hostname or IP address of system you wish to connect to, "q" to
quit:
* dgis.dtic.dla.mil
     or
* 131.84.1.2
```

CHAPTER 6 - BIBLIOGRAPHIC SEARCHING OVERVIEW

In order to take full advantage of the DGIS post-processing features, it is important to understand the principles of searching online bibliographic databases. The fundamentals of online searching are discussed here. For a more complete discussion of this topic, refer to the user manuals for the major systems, such as ORBIT, DIALOG, DROLS, etc.

A summary of the basic search procedures, display formats, and other important hints for searching the major bibliographic systems available through DGIS is contained in the Appendix G, Vendor Search Hints.

DEFINITIONS

BIBLIOGRAPHIC DATABASES

Bibliographic databases contain references to written material such as books, journal articles, technical reports, conference proceedings, patents, and studies. A bibliographic citation tells you where to find the referenced work. Bibliographic databases usually contain citations and one or more online indexes.

BIBLIOGRAPHIC RECORDS

There is one bibliographic record for each citation in a database. Each record usually consists of author name(s), title, publication year, source of the publication (journal reference, publisher name, patent assignee), index terms, and an abstract. The following is a sample bibliographic citation. It was downloaded from the NTIS database on DIALOG. The two-letter mnemonics on the left are the field tags.

FN- DIALOG NTIS FILE 6

AN- 1315598

AN- <NTIS> AD-A189 750/3/XAB

TI- Scientific and Technical Information Network (STINET). Foundation for Evolution

TI- <NOTE> Technical rept.

AU- Cotter, G. A.

CS- Defense Technical Information Center, Alexandria, VA. Office of Information Systems and Technology.

CS- <CODE> 062640001; 412586

RN- DTIC/TR-88/5

PY- Sep 87

PG- 33p

LA- English

PC- PC A03/MF A01

JA- GRAI8813

CP- United States

AB- This paper describes advances which are being made in information retrieval systems to assist end-users and information specialists to overcome the critical barriers which make it difficult for them to exploit the power of these systems. Technology which is being applied to allow users to interact with information retrieval systems with greater ease and more successful results is identified. To illustrate this process, the efforts of the U.S. Defense Technical Information Center to develop and implement an integrated, functional, scientific and technical information network are described. This network was purposefully designed to incorporate both end-users and their information management intermediaries in a complementary manner making them resolute partners in the work and its rewards. The uses of technology modules — artificial intelligence, expert systems, gateways, user-friendly interfaces — to overcome user barriers are described.

DE- Artificial intelligence; Barriers; Department of Defense; *Information retrieval; *Information systems; Networks; Technical information centers; User needs; *Man computer interface; Management

ID- STINET (Scientific and Technical Information Network); DGIS (DoD Gateway Information Systems); Networking; Gateways; End use; NTISDODXA

SH- 88B (Library and Information Sciences—Information Systems); 88A (Library and Information Sciences—Operations and Planning); 88C (Library and Information Sciences—Marketing and User Services); 95D (Biomedical Technology and Human Factors Engineering—Human Factors Engineering)

FIELDS

Each type of information mentioned above (author, title, etc.) is stored in a separate field. Thus, a record containing a citation to a journal article will probably have an author field, a title field, an abstract field, an index terms field, a journal reference field, and a date field. Other fields, such as conference title, corporate author, and author affiliation are frequently used as well. The actual number and content of fields varies from database to database, so you must review the appropriate system documentation to obtain accurate descriptions of field contents.

FIELD TAGS

Each field has a field label or tag. This tag is usually a two-to four-character mnemonic that is related to the field name. For instance, the field tag for the author field might be AU or AUTH. Field tags are essential for post-processing. You cannot post-process records without field tags.

RECORD NUMBERS

Each record in a given vendor database has a unique record number. This number is often called an accession number. It can be a randomly assigned number or it can have more meaning, such as accession year. This number is in the AN field in the sample citation.

DIALOG TAGGED RECORDS

Records from DIALOG databases are not automatically displayed with field tags. If you wish to use the DGIS post-processing features, there are two ways to display tagged records.

1. Format 5 (full record with tags) Check Blue Sheet on each database
2. Any format number or list of fields followed by "tag" i.e., t s2/4/1-3 tag

Since each database is different, enter **news** at any DGIS prompt for a list of databases that support the two different methods. The DGIS DIALOG reformatter works better with format 5 than with user-defined formats because the format 5 field tags are more consistent.

ONLINE INDEXES

Online indexes contain the words, index terms, names, dates, and other information that appear in each citation in a database. Like the index in the back of a book, online indexes have "pointers" to the citations that contain the information. Instead of referring you to a page number, online indexes point to record numbers. When you enter a search term, the computer actually looks in an index to determine if the term occurs and in how many records it is found. Online indexes are very important in online searching because it is the online index that you search not the records themselves. Just as a cookbook might have a general index as well as a recipe names index and an ingredients index, online databases have several types of online indexes. You will frequently find a basic (general) index and several specific ones.

BASIC INDEXES

Many systems have basic indexes. A basic index contains the words, index terms, and other information that appear in a predefined group of fields. Basic indexes are often default indexes (the index that is searched if a specific index is not requested), so the fields that are included in the basic index are often subject-oriented, such as title, descriptors, and abstract. Systems have basic indexes to improve search performance. For instance, if you were searching for information on cancer, you would not want to retrieve everything published in the journal Cancer. Basic indexes rarely include a citation or journal name field to avoid just such an occurrence.

SPECIFIC INDEXES

Specific indexes include only those terms that appear in a particular field. For instance, author names will be in an author names index and journal names will be in a journal names index. These indexes can be used to limit retrieval to a specific field.

SEARCH QUALIFIERS

Search qualifiers are two to four character mnemonics that refer to a specific field. Use search qualifiers in conjunction with search terms to search specific indexes. This will limit retrieval to those citations with the term in a particular field. For instance, if you enter a name in conjunction with the qualifier for the author field, you will retrieve only those citations where the person is listed as the author, as opposed to citations where the person was the subject of the article. To search fields that are not included in the basic index, you must use search qualifiers. Therefore, you will need to use search qualifiers for most author, journal name, and date searches as well as for searches on information appearing in special fields such as contract number and sponsoring agency searches. Frequently, field tag mnemonics and search qualifiers are the same, but this is not always the case, so be sure to check database documentation. Examine system-specific documentation to determine the correct way to enter search qualifiers.

VIEWING INDEXES

You can look at the online indexes for most of the vendor systems available on DGIS. You will usually need to enter the appropriate search qualifier to view specific indexes. For information on how to view online indexes, see the Appendix C Vendor Search Hints or refer to system-specific documentation.

DESCRIPTORS

Descriptors are terms that indicate the subject matter of an article. Descriptors usually come from approved lists of terms called a controlled vocabulary or thesaurus. Indexers examine articles and assign the terms from the controlled vocabulary list that best indicate the subject matter of the article. Descriptors usually consist of one or two terms. The advantage of descriptors from controlled vocabularies is that one term is always used to refer to a particular subject, so you will not need to think of synonyms or alternate spellings. For instance, cancer, tumors, and neoplasms are synonymous terms, but the producers of the MEDLINE database have decided to always use the term neoplasm to describe this concept. A disadvantage of controlled vocabularies is that they often lag behind technical advancements and will frequently not include jargon terms or new terms. For instance, "monoclonal antibodies" was in common use well before it appeared in any controlled vocabularies. If you are looking for information in a very new field, you may want to search using abstract and title words or identifiers.

IDENTIFIERS

Identifiers are uncontrolled terms that are assigned to citations. These are usually either frequently used synonyms, jargon terms, abbreviations, or new terms that are not yet part of a controlled vocabulary. Identifiers usually consist of one or two terms.

TEXT WORDS

Text words are single words that are searchable in the online index. In most cases, words from the title, abstract, and descriptor fields are text words.

MULTIPLE WORD TERMS

You will find both single and multiple-word descriptors and identifiers. Multiple-word identifiers can usually be entered without proximity operators. In many cases, single words of multiple-word descriptors are text word terms, but this is not always the case.

STOP WORDS

Stop words are usually trivial, highly used terms or words that are used as system commands. These terms are not usually searchable.

PROXIMITY SEARCHING

In most systems, you can indicate that you want a word to appear next to another word or within a defined number of words from the other word. You must use some symbol, such as (w) or adj, to indicate that you want one word to appear next to another word, e.g., mars(w)atmosphere. These are called proximity operators. You do not have to use a proximity operator for multiple-word descriptors. Examine system-specific documentation for more information about proximity searching.

SETS

The results of each search are retained in sets or files. A search results set usually contains only the record numbers for the retrieved citations. You must issue a display command to view the retrieved citations. In most systems (an important exception is DROLS), your sets are retained until you end a search session or select a different database. Each set will have a set number.

SEARCH HISTORY

Many systems allow you to display a search history. A search history will usually list each set and the number of items in the set as well as the search statement used to create the set. See the Appendix G, Vendor Search Hints to learn how to request a search history for the different vendor systems.

BOOLEAN LOGIC

One of the most important advantages of online bibliographic searching over the manual searching of printed indexes is the availability of Boolean logical operators. These operators, AND, OR, and NOT, enable you to define the relationships between concepts.

AND

The AND operator is used to combine concepts. It allows you to narrow down your search results to only those citations containing all of the specified search concepts. In a search for citations about the effects of acid rain on fish in the Great Lakes, you would use the AND operator to combine the three concepts; acid rain, fish, Great Lakes. A very simplistic search might be: acid rain and fish and great lakes.

Note: The above example assumes that acid rain and great lakes are accepted multiple-word descriptors. If not, proximity operators should be used: acid (w) rain and fish and great (w) lakes.

OR

The OR operator is used to broaden search results. By using OR, you will retrieve all citations about any or all of the search terms of interest. Usually, all of the search terms combined using the OR operator are different ways to state a single concept. In the example above, we have three search concepts. Each concept is very general. In most cases, you will want to list more specific terms related to a general concept and find all related citations using the OR operator. For instance, for the Great Lakes concept, you will want to find articles mentioning any of the specific Great Lakes as well as the general concept of the Great Lakes. Thus, you would want the following search: great lakes or lake superior or lake erie or lake ontario or lake michigan. These terms are assumed to be accepted multiple-term word descriptors.

NOT

The NOT (sometimes called AND NOT) operator is used to exclude concepts or search terms. If, for instance, you were interested in all of the Great Lakes except for Lake Erie, you could enter great lakes not lake erie. Be very careful in using the NOT operator because you can exclude articles that have pertinent information; e.g., in the example above, you would have excluded information from articles about the other lakes that also mention Lake Erie.

SEARCH STATEMENTS

To perform a search of an online bibliographic database, you must enter a search statement in the format required by the system that you are using. A search statement results in a set containing the record numbers for all of the citations that meet your search criteria. Depending on the system that you are using, you may create several intermediate sets along with the final results set. Refer to system-specific documentation before entering a search statement. This is especially true of DROLS, which uses significantly different conventions from those used by other bibliographic retrieval systems.

SUGGESTION

You may want to perform your search in steps by entering several search statements and combining the results in a later search statement. If you enter all of your search terms as one statement, you cannot examine or work with the results on individual terms.

CONTENTS

Usually, a search statement can contain search terms and search qualifiers, Boolean operators, and set numbers.

CAPITALIZATION

Although capitalization is important in DGIS, it is not important in most retrieval systems. For the sake of simplicity, it is best to enter all search statements using lowercase letters.

PROCESSING ORDER

If you use more that one Boolean operator in a search statement, the order of processing may not be what you expect. It is best to use parentheses to indicate preferred processing order when possible. Check system documentation for more information on the order of processing statements containing Boolean operators.

COMPLEX SEARCH STATEMENTS

Complex search statements contain more than one Boolean operator. You should use parentheses to group concepts. An example of a complex search statement follows.

> *fish and acid rain and (great lakes or lake erie or lake superior or lake ontario or lake michigan)*

All the terms within the parentheses will be processed before the other Boolean operations are performed.

SEARCH STRATEGY

Before you begin a search of an online retrieval system, it is best to take some time to plan your search strategy. The following general approach should be helpful to you:

1. Write a sentence describing the results you need.
2. Identify the specific concepts of interest.
3. Select the databases that are likely to include citations on the subject of interest. Consider cost, content, and search capabilities.

4. Select appropriate descriptors, text words, and other search terms of interest. Examine the database thesaurus if possible. (You will OR together synonyms and AND concepts).

   fish and acid rain and (great lakes or lake erie or lake superior or lake ontario or lake michigan)

   The three concepts in this search strategy are fish, acid rain, and great lakes. The names of the individual lakes are alternate ways of expressing the single concept of Great Lakes.

5. Decide if search qualifiers are necessary.
6. Determine the steps that you will take to perform the search. Write the search statement or statements that you will use, including logic.
7. Perform the search.
8. Review the results.
9. Revise your search strategy based on preliminary results.
10. Examine online indexes, if necessary.

All online systems have a User Support Hotline to help with specific questions and problems. The phone numbers for all the systems you can access through DGIS are included in the Appendix F, Vendor Information.

CHAPTER 7 - COMMON COMMAND LANGUAGE (CCL)

INTRODUCTION

The DGIS Common Command Language (CCL) was initiated to address the problem associated with having to know multiple command languages to access the many database systems which are available through DGIS. The goal of this project is to provide a common search language which remains constant but retains as much of each database systems unique capabilities as possible. The guideline used in creating the CCL is the National Information Standards Organization (NISO) [Z39.58] standard which specifies the vocabulary, syntax, and operational meaning of commands used to search online information retrieval systems. With the CCL, the user no longer needs to learn another new language to query a new database system. The CCL will act as an interpreter to translate commands to each of the unique database languages. Currently, the CCL provides translations for five database systems. They are:

BRS (provided by InfoPro Technologies);

DIALOG (provided by DIALOG Information Services Inc.);

DROLS (provided by the Defense Technical Information Center);

NASA-RECON (provided by the NASA STI Facility);

ORBIT (provided by InfoPro Technologies).

There is also a SearchMAESTRO Common Command Language (CCL). See page 12-18.

NOTE: You may still use a database system's native command language should you prefer it; the CCL native command provides this capability.

ACCESSING CCL

The CCL can be accessed from the menus on DGIS. You may type "ccl" at any DGIS menu prompt, or you may step through the DGIS menu to access CCL, by selecting communicate (2) from the DGIS Main Menu; then selecting assist (1) from the DGIS Communications Menu; and finally selecting ccl (1) from the DGIS Assist Search Menu

```
                WELCOME TO THE DoD GATEWAY INFORMATION SYSTEM

>>>>>>>>>>>>>>>>>INFORMATION TRANSFER MODULES

  1     directory           DGIS Directory of Resources
  2     communicate         Connect to Information Resources and People
  3     process             Information product tailoring

>>>>>>>>>>>>>>>>>INFORMATION UTILITIES

  4     em                  Electronic Mail.
  5     files               File operations.

>>>>>>>>>>>>>>>>>SUPPORT INFORMATION

  6     help                Description of features.
  7     users               DGIS registered users.
  8     info                DGIS news and information.
  9     utilities           Misc utilities, change passwd
 10     fulltext            Full text documents (CIM, DoD, etc)

DGIS HOTLINE NUMBER: (703) 274-7791 or (DSN) 284-7791
or send questions via DGIS EM to 'dgishelp'

Enter a menu number, a command, "b" to backup, "t" for top, or  "e" to
end.
* 2
```

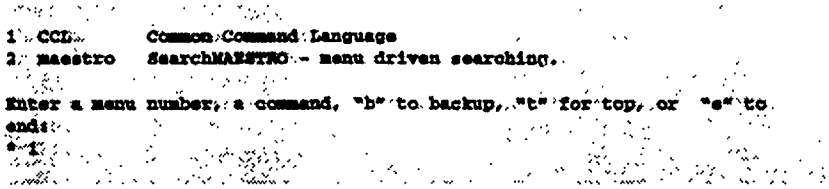
SIGNING ON

Upon selecting CCL from the DGIS menu, the CCL Welcoming Banner will appear listing the available databases. Enter one of the database names or enter ccl-info to access the introduction to CCL. This allows you to execute a few test commands before you actually sign-on to a database system. For example, you may use the ***explain*** command followed by any of the CCL commands or topics to obtain the syntax and definition of any CCL command.

```
>>>>>>>>>>>>>>>>>ASSISTED SEARCHING

1  Assist        Search interfaces menu

>>>>>>>>>>>>>>>>>NON-ASSISTED SEARCHING

2  connect       Auto-login to remote systems
3  systems       List of systems with auto access.
4  dial          Unassisted dial into other system.

>>>>>>>>>>>>>>>>>OTHER COMMUNICATIONS
5  people        Communicate interactively with DGIS users.
6  order         Order documents, articles
7  bbs           Bulletin Board Systems
8  Internet      Internet access menu

Enter a menu number, a command, "b" to backup "t" for top, or  "e" to
end:
* 1
```

ASSISTED SEARCHING

DGIS will offer a number of interfaces to make searching of diverse databases easier at varying levels of search expertise. These interfaces are in various stages of development. The first is offered below.



CCL uses the same automatic connection agents that DGIS uses. To use CCL translations for an information system, you must have already registered with the database vendor and have provided DGIS with your access passwords.

SIGNING OFF

To terminate from the current database system, enter **stop** at the CCL prompt. Any necessary database system sign-off procedures will be done automatically by CCL. You will then be returned to the CCL Welcoming Banner with the list of available database systems. You may enter another database system or log off from CCL.

To logoff CCL, enter **exit** or **quit** at the CCL prompt. You will return to the section of the DGIS menu from which you entered CCL.

If you have changed any session-dependent variables, they will return to the CCL defaults and all re-defined CCL commands will return to the original commands when you sign-off. Additionally, if you have started a "**set save**", the file is closed and saved in your home directory should you need to access it later for post-processing. (The CCL Appendix L contains a complete discussion of Custom Files in your home/ccl directory that control CCL command defaults.)

CCL FEATURES

In order to provide an advanced, user friendly command language, the CCL is equipped with several features that enhance searching capability. These features are listed below and discussed in the following sections.

- ◆Common Interface
- ◆Syntax Checking
- ◆Command Completion
- ◆Define Your Own CCL Command
- ◆System Help

Several special keys have also been designated to provide these features in an efficient manner. These keys are summarized in Table 15 along with the respective function, application, and section cross-reference.

CCL Special Keys

Special Key	*Function*	*Application*
<TAB>	Command Completion	Press <Tab> after entering enough of a command to make it unique; CCL will complete the command and prompt you for the next parameter
<^> (<Shift>6)	System Help	Press <^> at any point in a search statement to retrieve context sensitive help
<Ctrl>c	Interrupt	Press <Ctrl>c to stop a search from being processed or if you seem to be "hung up"—you should return to a CCL prompt
<Ctrl>p	Previous Command	Press <Ctrl>p to display the previous command
<Ctrl>n	Next Command	Press <Ctrl>n to display the next command
<Ctrl>u	Clear Line	Press <Ctrl>u to clear the entire contents of a line, regardless of where your cursor is
#	Indicates Single Character	Used in truncation, masks one character
*	Indicates Multiple Characters	Used in truncation, masks multiple characters
?	Indicates Multiple Characters	Used in truncation, masks multiple characters

Table 4

COMMON INTERFACE

Probably the most important feature that the CCL offers is a common command interface which is based on the NISO standard. By using the CCL, you no longer need to learn one new language after another to search multiple databases. There are two major aspects of the common interface—the commands you can use to search a database and the fields you can include in a search statement. The CCL field codes are discussed below.

FIELD CODES

The information contained in each record of a database is broken down into separate categories called fields (e.g., Title and Author). The names of the various fields have been standardized in the CCL to provide continuity in searching across database

systems. Each field is assigned a uniform name and mnemonic abbreviation, referred to as a field code. The following CCL Field Codes are based on the NISO standard [A39] Appendix 1.

Field Codes

Field Code	*Field Name*
AB	Abstract
AF	Author Affiliation
AN	Accession Number
AU	Author, Personal Author
CA	Corporate Author, Corporate Source
JT	Journal Title (Serial Title)
LA	Language
PD	Publication Date (in many databases, if both a publication date and a publication year existed, the CCL PD field code corresponds to the publication year)
RN	Report Number (also CAS Registry Number in those databases which have a CAS Registry Number field code)
SE	Series
SU	Subject (includes descriptors, identifiers, and any other fields which are subject-related; many databases have separate fields for descriptors and identifiers, but to simplify the CCL, they have been combined)
TI	Title

Table5

NOTE: While the CCL was designed to provide as much commonality as possible between the database systems it supports, not all of the database systems support all of the CCL commands and/or field codes. Conversely, not all of a database system's capabilities may be supported by the CCL. In this event, the native command provides access to a database system's own command language and unique field codes.

SYNTAX CHECKING

The CCL syntax checking occurs as you enter a search string. It checks each CCL command, once you press the space bar, for spelling accuracy as well as the accuracy of the position you have placed it. It does not check the spelling of the search terms; only the spelling of the CCL command (such as "fnid" instead of "find").

If you encounter a syntax error, the CCL will display the type of error that occurred and re-display the line up to the point of the error. You may then enter the correct entry or ask for help by using the <^> key (i.e., the <Shift>6 key). Remember, to clear the line so that you may begin again by using the <CTRL>u keys.

COMMAND COMPLETION

Another feature of the CCL is automatic command completion. All you need to enter is enough of the command to make it unique, press the <Tab> key or continue to enter the rest of your search statement. Both techniques are described in the following paragraphs. (Please refer to Table 6 for quick reference to the CCL Commands.)

There are two ways to use command completion. The first is to enter the least number of characters to make a command unique. For example, if you wanted to display the first three records in the results of set 3 using the short display format, you would enter **dis3 short 1-3**. If you entered only **d**, the CCL could not distinguish between the **define** or **display** command because **d** is not unique.

The second type of command completion uses the <Tab> key. After entering a CCL command, press the <Tab>, and a short prompt for the next logical entry in the command line will appear. The following example shows the **explain** command used with the <Tab> key. After typing the unique command identifier for **explain**, **e**, press the <Space Bar>, then press the <Tab> key. The CCL completes the entire command and prompts you for a CCL command (or topic).

Example: **e**
press the <Tab> key
The CCL returned the following message:
explain [command]

DEFINING YOUR OWN CCL COMMANDS (THE DEFINE COMMAND)

The CCL **define** command lets you rename CCL commands to something you may be more familiar with or more accustomed to using. It also lets you create short cuts to execute frequently used commands. For example, you might be more accustomed to using "search" instead of "find" when querying a database. You may redefine the **find** command as "search" by entering: **define search find.** You can define a term which consists of an entire search statement and then choose different databases to which to send that search string. This alleviates the need to retype the entire search just because you changed databases.

SYSTEM HELP

There are two levels of system help - generic and specific. Generic help will display general descriptions of the CCL Commands/Topics. Specific help will be more concise and specific to the current database situation (e.g., BRS, etc.). Generic help is retrieved via the **explain** command while specific help is retrieved via the **help** command or the **help** key "^". At any point in creating a search, you may press the **help** key, <^>, to retrieve context sensitive help. The following example shows the **help** message which appears when <^> is pressed after entering the **explain** command.

Example: **explain ^**

The following message will be provided:

```
CCL> explain ^
--- current options are: ---
Command, one of the following:
back        choose      databases   define      delete
display     explain     find        forward     help
history     native      relate      review      scan
set         shell       show        sort        start
stop
or confirm with carriage return
```

CCL> EXPLAIN

From this response, you can see that following the **explain** command, you may enter one of the following options listed above (i.e., **back**, **choose**, etc.). Or, you may press the <Enter> key without specifying another parameter. Either response is a valid one.

Continuing with this example, you may enter explain followed by a CCL command or topic. A complete explanation of that command or topic will be displayed. Depending on the length of the explanation, you may have to page through a response using **n** and **p**, for Next page and Previous page, respectively. Press **q** to **Quit** the explanation, if necessary, and return to a CCL prompt. A sample response to a request of **explain back** is displayed below.

CCL COMMANDS

The Common Command Language allows you to interact with different database systems using one standard set of commands. These commands perform specific functions designed to assist in the search, retrieval, and display of information.

The basic syntax used to construct a CCL command is:

[CCL command] [Spacebar] ([Search term] or [Parameter])

The CCL command may be the complete command or the unique abbreviation for that command. It indicates the action to be performed, like "find" or "display." The terms following the command vary. They may be one or more search terms which may be combined using proximity or Boolean operators. Or, they may be parameters that pertain to session-dependent values, like the "**usr1**" display format or a specific result set number.

There are four general types of instructions in the CCL: commands that direct a search (**find, native, choose, scan, stop**); commands that direct the results (**display, review, back, forward, sort**); commands that provide instruction or assistance in using CCL (**explain**); and commands that pertain to the environment in which CCL operates (**set, define, history, shell, show**).

Each CCL command is discussed in this section. They are listed in alphabetical order for easy reference. A complete list of the commands and the unique abbreviations along with an example of each and a brief description of the function performed can be found in Table 17.

Quick Reference to CCL Commands

CCL Command	Unique Abbreviation	Example	Function
BACK	b	b 5, back 6	View previously displayed data or items on a list Used after a scan or display command
CHOOSE	c	choose eric, c eric	Select a database to use for subsequent searches
DEFINE	def	define search find	Re-name a CCL command to a term you prefer
DISPLAY	di	di s10 long 1-10, display s8 short	View results of searches
EXPLAIN	e	e find, explain sort	Obtain help associated with CCL commands, topics, and options
FIND	fi	fi supercomputer, find marine and biology	Initiate a search in the currently selected database
FORWARD	fo	fo 10, forward 5	Display continuing data or items on a list Used after a scan or display command
HELP	he	he back, help back	Displays brief and specific help associated CCL Commands
HISTORY	hi	hi, history	Display a list of previously entered CCL commands
NATIVE	n	n, native	Submit commands to the remote host database using that database command language
REVIEW	rev	rev, review	Show a list of results sets from the current CCL session
SCAN	sc	sc graph, scan space	View an alphabetical list of index terms
SET	set	set history 30	Set session-dependent parameters (e.g., history, usr1, usr2, verbose, save)
SHELL	she	she, shell	Temporarily exit to a UNIX prompt or to DGIS
SHOW	sho	sho, show	Display session-dependent parameter values
SORT	so	so au s3, sort ti s2	Organize your results based on specified field codes
STOP	sto	sto, stop	End a session with a remote database host and logoff CCL

Table 6

COMMAND: BACK

Syntax: **back** [number]

The **BACK** command is used to view previously displayed data or items in a list. This command is used after a **DISPLAY** or a **SCAN** command only. You may specify the number of items to skip backward by entering the command, **BACK**, followed by the number of items to skip backward. For example, to backup 5 items, you would enter: **back** 5. If you do not specify a number, the database system default will be assumed.

NOTE: Not all database systems allow you to use this command after both a DISPLAY or SCAN command. If this is the case, the CCL will display a message stating that BACK cannot be used after one of these two commands.

Likewise, you can enter **help** followed by a CCL command.

Some database systems support back after only one of these commands; Dialog and Orbit support back after a scan command only, whereas BRS supports the **back** command only after a **display** command. If you try to use it after a command that is not supported, you will receive an error message.

CHOOSE

Syntax: **choose** [database identifier]

The **choose** command is used to select a database for subsequent searching. You must enter the database identifier code which may be a name, a number, or a mnemonic string of letters. In each of the CCL database systems, there are default databases already assigned. They are:

BRS	ERIC
DIALOG	NTIS
DROLS	TR (Technical Reports)
ORBIT	NTIS
NASA-RECON	A (File 1—IAA and STAR Files)

You may change these default databases using the default files located in your home/ccl directory; please refer to section CCL Appendix L for details.

Example: choose ntis
choose 146

NOTE: If you don't know what databases are contained in a database system, you may enter **choose** ^ *and a complete list of all database identifiers for the specified database system will be displayed. You may also use the* **databases** *command to retrieve a list of the database identifiers cross-referenced to the full database name. In some cases, you may specify whether the list of databases is sorted alphabetically or numerically, as in Dialog.*

DEFINE

Syntax: **define** [newterm] [CCL command]; [CCL command]; [CCL command]

The CCL **define** command lets you rename CCL commands to another name that you may be more accustomed to; for instance, you may prefer to use "search" instead of "find" to initiate a search strategy. You can rename the **find** command using **define**. Or, you may prefer to use "type" instead of "display" to view the results. Both of these examples are presented below.

Example: **define** search find
define type display

NOTE: In the event that you forget the new name of a CCL command, you may use the show command to display the "defines." Enter show and a complete list of the session dependent parameters will be displayed. Or, enter show defines to just display the "defines." Remember that you can still use the original CCL command even if you have defined it to a new name.

In addition to renaming CCL commands, you may create short cuts to execute frequently used commands. You may wish to conduct the same search in more than one database, for instance, so you might create a term which is the equivalent to an entire search. To illustrate this, let's say you are searching for studies on Salt Lake City, Utah. Your search may be:

Example: **find** salt lake city

You may define a term called "lake" which is the equivalent to the above example. To do so, you would enter:

Example: **define** lake find salt lake city

Now, you can just enter lake at the CCL prompt and the "find salt lake city" command will be executed. This procedure is especially valuable for searching more than one database for the same search strategy. All you need to do is choose different databases (within the current database system i.e. BRS, etc.) and enter "lake" instead of "find salt lake city".

Not only can you re-define a single CCL command, but you can also define multiple CCL commands. Each command must be separated by a semi-colon to mark the beginning and end of each command. Using the same "salt lake city" example, let's say you want to also display the first record in the results set as well. Your define statement to combine both the find and display commands would be:

Example: **define** lake find salt lake city; **display** short 1

Now, when you enter the term, "lake", CCL will execute the find statement and display the first record in the short format. (Notice that the set number is not included in the display statement. If you do not specify a set, CCL defaults to the last set of results, which would be the response to your find statement. Please refer to the **display** command.)

DISPLAY

syntax: **display** [set number] [display format] [record number(s)]

The **display** command is used to view the results of a search. The CCL displays the results from each database system exactly as it appears; no re-formatting of the data is performed. In most database systems, you will see a **set** number followed by the search term(s) and the number of hits. DROLS, however, does not use **set** numbers as it allows you to manipulate only the last set result; you cannot access previous sets of results without re-executing the search.

There are three main parameters used in the **display** command. You must specify a value for each; otherwise the default value is assumed. Included in the discussion below is the default for each of these parameters.

[set number]: Every search statement generates a results set which contains the number of "hits" in a search. In order to view the citations included in a results set, you must specify which **set** number you want to view. This is done by entering the letter, **s**, in front of the **set** number. For instance, to view results to set number 5, enter **display s5**.

If no **set** number is specified, the default is the last results **set** in the current CCL session.

NOTE: In DROLS, you cannot specify a set number because DROLS can display only the citations in the last results set. If you do enter a set number, CCL will display a brief error message indicating the last set will be used in response to your display request.

[**display** format]: There are four types of **display** formats you may use in CCL. They are: **long, short, usr1**, and **usr2**. **Long** generally includes every field in a citation. **Long** is the format required for the post process feature in DGIS. **Short** corresponds to the short format unique to each database. **Usr1**and **usr2** are formats that you can specify using the set command. These custom formats can include one or more of the CCL field codes To display a record in set number 3 using the short format, enter: **display s3 short**.

If no display format is entered, the default is **long**, unless you have used the **set display** command to indicate otherwise.

Note: You may also specify one or more field codes, separated by commas, instead of one of the four formats discussed above. For example, if you want to see just the author and title fields in results set 7 for records 5-9. Enter: display s7 au, ti 5-9

[**record** number]: Finally, the last element in a display command is the **record** number(s) you wish to display . You may enter one record number, a list of record numbers separated by commas, a range of record numbers separated by a hyphen, or a combination of all three. Or, you may wish to view all of the records. Examples for each are as follows:

Example: To display records 1-5 and records 20, 23, and 30 in set number 9 using the short format, enter: **display s9 short 1-5,20,23,30**

Example: To display all of the records in results set 5 in the usr2 format, enter: **display s5 usr2 all**

If no record number is specified, the default is **set** to the first record only.

Remember, you may use the **back** and **forward** commands to page through a results set. You MUST have performed a **display** command first, however.

EXPLAIN

Syntax: **explain**
explain [CCL command/topic]

The **explain** command is used to request assistance with CCL commands and related topics. You may enter the **explain** command by itself to receive a list of commands and topics that can be "explained" or you may enter the **explain** command followed by one of the valid terms and receive the syntax and complete definition of that term.

The following example depicts the results when you request explain history.

CCL>**explain** history

HISTORY

Syntax: **history**

The HISTORY command is used to retrieve a list of CCL commands previously entered. The HISTORY default is set to 10; however, it can be changed using the SET command (e.g., set history 15)—please access the explain file for SET for details regarding this command.

The HISTORY command is similar to the REVIEW command in that both of these commands retrieve previous information. The HISTORY command displays all of the CCL commands that have been entered during the current session, depending on the setting (that is, if history is set to 5 and you have entered 10 commands, you will see only the last 5 commands). The REVIEW command displays all of the results sets that have been generated in the current session.

You may use the <CTRL> keys to recall the previous commands in the history file.

<CTRL>p Recall the previous command
<CTRL>n Recall the next to last command
<CTRL>u Clear the line, regardless of where the cursor is

Once the command appears at the CCL prompt, you may edit it or press the <Enter> key to execute it.

FIND

Syntax: **find** [search term]
find [field code]=[search term]
find [search term] [boolean operator] [search term]
find [field code][limiting/ranging operator][search term]
find [search term] [proximity operator] [search term]
find [field code]=[search term] [boolean/proximity operator] [search term]
find [field code],[field code]=[search term]

The **find** command initiates a search in the current database selected. A search term can be multiple words, but it cannot contain one of the CCL Boolean operators within the term itself unless you use quotation marks around the search term(s), e.g. **find** ti="War and Peace".

NOTE: Remember, the field codes are dependent on the database you have selected. While the CCL has standardized fields, there may be some fields which are not supported by a database system; in this case, you will receive an error message. Also, each database system may contain fields which cannot be searched using the standard CCL fields; you may use the native mode to search on these fields.

As you can see from the **find** syntax, there are several options available. The first option is to search for only one term.

Example: **find** training

The CCL will search the currently selected database for the term "training".

A search term may consist of more than one word, e.g., "military training."

The second option specifies a particular field to be searched, which limits the extent of your search to that field only. This is generally called the qualification of search terms.

Example: **find** ti=combat

In this example, only the **ti** field (the title field) will be searched for the term "combat".

The third option allows you to qualify your search terms using Boolean logic (AND, OR, NOT). For example, you may wish to search for "warfare" and "chemical" as they appear only in the subject field.

Example: **find** su=(warfare and chemical)

The fourth option allows you to specify more than one field to be searched for the same term. This is essentially the same as using the Boolean operator OR. For example, you may wish to search for a citation regarding "Military Dogs," but you want to search only the abstract and the title fields.

Example: **find** ab, ti=military dogs or, **find** ab=military dogs or ti=military dogs. Only the fields ab and ti (abstract and title fields) will be searched for the term "military dogs".

You may also use the **find** command in conjunction with truncation and proximity operators.

COMBINING SEARCH TERMS

Search terms may be combined in a search statement using Boolean operators or proximity operators. Both are described in the following text

BOOLEAN OPERATORS

In the process of performing various searches in the CCL, you may combine search terms with Boolean logic. The CCL uses the Boolean operators: AND, OR, NOT.

NOTE: When no operator is used, AND is understood to be the acting operator.

AND Logic

AND logic terms are very specific. All terms or statements must be present to satisfy the request. The following example asks for any citations indexed on both Military Dogs and Training. Unless both terms are present, the citation will not be included in the results set.

Example: **find** military dogs and training

OR Logic

OR logic provides alternative terms or statements, any one of which will satisfy your request. For example, the following example requests citations indexed on Military Dogs or Training. If either of the terms is present, the citation will be included in the results set. (An easy way to remember the difference between OR and AND is that "OR is MORE", meaning a search statement using OR will generate MORE results.)

Example: **find** military dogs or training

NOT Logic

NOT logic is used to reject citations that contain a specific search term or statement.

NOTE: Great care should be exercised in using NOT logic since multiple subject citations might include the term in a different context which could eliminate pertinent material.

The following example requests citations indexed on Military Dogs, excluding Training.

Example: **find** military dogs not training

Proximity Operators

Proximity operators are a special class of operators which allow you to specify a relationship between search terms. This relationship considers the relative position of and distance between two or more search terms. The proximity operators used in the CCL are:

- **n** meaning **near**
- **w** meaning **with**

NOTE: While CCL translates just these two proximity operators, a database system may support more than this. In order to use a proximity operator offered by a database system but not supported by the CCL, access native mode and enter a search statement using the database system's own command language.

Near Operator

The **near** operator is used in a search statement when precise word order is not required. In effect, it indicates adjacency of words, in any order. When using this operator, you should use the following syntax:

[search term] **n**[number] [search term]

For example, if you were to search for side effects in radiation treatments, you might construct the following statement:

Example: **find** effects **n4** radiation

In this case, "n4" indicates that the terms "effects" and "radiation" must be within four words of each other in either direction. Thus, the phrases, "effects of radiation" and the phrase "radiation and its effects", would both be included in your results set.

With Operator

The **with** operator is used in a search statement when precise word order IS REQUIRED. It acts as an adjacency operator where the search terms must be found in a specific order. When using this operator, you should use the following syntax:

[search term] w[number] [search term]

For example, if you were to search for hazardous marine life your search statement might look like:

Example: **find** hazardous **w2** marine life

PROCESSING ORDER AND NESTING OF SEARCH TERMS

When more than one Boolean and/or proximity operator is used in a single search statement, the system "nests" the search terms by executing the operators in order of the most to least restrictive. This order is:

1. truncation
2. proximity operators
3. Boolean (logical) operators
   a. OR
   b. AND
   c. NOT

If a search statement contains two or more operators which have the same precedence, they will be executed from left to right, in the order in which they are encountered. However, you may change this order by using parentheses. Parentheses may also be used for nesting Boolean expressions within a single search statement.

Example: **find** contamination **and** (radiation **not** solar)

In this illustration, the terms in parentheses will be executed first, then the term "contamination" will be searched. If no parentheses were used, the terms "contamination" and "radiation" would be searched, then "solar".

TRUNCATION OF SEARCH TERMS

Another technique which you may use frequently is truncation, that is, searching with one or more characters missing to retrieve variations of a search term. Truncation can be used to the left and right of a search term as well as in the middle. When you are using the CCL, you may use three special characters to denote truncation:

* indicates multiple characters
? indicates multiple characters
# indicates a single character

NOTE: Not all databases implement truncation the same way. Some systems allow you to truncate only the end of a word; others allow you to truncate both the beginning and end of a word. If the database system does not support a form of truncation you have requested, an error message will be returned. Please refer to that database system manual if you need more information.

RIGHT-HAND TRUNCATION

For instance, you may need to construct a search where you look for terms beginning with a root word, e.g., aero.

Example: **find** ti=aero?

In this example, the title field ("ti") will be searched for the root word "aero". Your results set might include aerospace, aerodynamics, aeroplane, etc.

Example: **find** ti=aero#####

In contrast to the previous example, this case illustrates a search for the root word "aero", but it requests that only five letters comprise the rest of the word (i.e., aerospace). This eliminates extraneous results. In any case of truncation, you should always put in the maximum number of letters you are sure of and use the minimum amount of truncation. This way, you will be more likely to get meaningful results, faster and less costly

NOTE: As a supplement to a truncated search, you may opt to use the scan command. This command lets you view an index of terms, usually with the number of "hits" that correspond to those terms. Thus, you can get a better idea of the types of terms that contain the search term you requested prior to constructing a search statement.

LEFT-HAND TRUNCATION

With left-hand truncation, you can retrieve various prefixes for a specified root term. This is a very useful technique for retrieving variations of chemical compound names and other technical terminology. You may use any of the three truncation characters (*, ?, #) provided the database system supports them.

Example: **find** ##chloride

Your results set might include bichloride, dichloride, etc., but only variations of chloride with a two letter prefix.

Example: **find** ###chloride

This results set might include trichloride, oxychloride, perchloride, etc., but only variations of chloride with a three letter prefix.

Example: **find** ?chloride
find *chloride

Both of these examples use the multiple truncation characters, * and ?, so that no restriction is placed on the results. In this case, all variations of terms ending with "chloride" will be included in your results set.

INTERNAL TRUNCATION

In addition to left- and right-hand truncation, you may also truncate the middle of search terms. Single character internal truncation allows you to retrieve various spellings of a given term, e.g. ionization and ionisation. Using internal truncation, your search statement would look like:

Example: **find** ioni#ation

Multiple character internal truncation allows you to include any intervening characters. For instance, labour and labor. Your search statement might look like:

Example: **find** labo*r

Caution should be used in this case because your search may yield results that include a lot of extraneous information. This example would return both "labor" and "labour" as well as "laborer", which may not be a term for which you were searching. To avoid this, you could use the # sign instead of the ? or * to indicate precisely the number of characters in a word. In most cases, however, it would probably be simpler and more cost-effective to use the Boolean operator OR (e.g., find labor or labour).

COMBINING TRUNCATION METHODS

Left-hand, right-hand, and internal truncation may be combined in a single search term. Again, caution is advised when using combined truncation so that your results generate meaningful information. In addition, you may see a message that indicates the truncation is too general which means that you need more of a root word specified (e.g., *ox would not be specific enough if you were searching the DROLS database system).

Example: **find** *chloro*ethylene or nitro?urethane

This search requests terms that include the term "chloro" and end with the word "ethylene" or terms that begin with "nitro" and end with "urethane".

Example: **find** chloro*ethylene*

In contrast to the above example, this search requests terms that begin with "chloro" and contain the word "ethylene".

LIMITING AND RANGING OPERATORS

In addition to all of the above methods of searching, you may use several comparison codes. You may use either the two letter code or the special characters listed below when constructing this type of search. These comparison codes are as follows.

eq	=	Equal to
ne	!=	Not Equal to
lt	<	Less Than
le	<=	Less than or Equal to
gt	>	Greater Than
ge	>=	Greater than or Equal to

Comparison codes are used primarily to search numeric fields. For example, you may want to search for all works by S. Bratton since the year 1983.

Example: **find** au=bratton,s and pd gt 1983

find au=bratton,s and pd > 1983

In this case, the author field code is searched for S. Bratton and the publication date field code is searched for a date later than 1983.

FORWARD

Syntax: **forward** [number]

Like the **back** command, this command is used after the **scan** and **display** commands to page through records in a results set. You may specify the number of items to move forward by entering that number in conjunction with the command, **forward**. If you do not specify a number, the CCL defaults to one record. Some database systems support **forward** after only one of these commands, usually after a **display**. If you try to use it after the command not supported, you will receive an error message.

Example: **forward** 6

HELP

Syntax: **help** [CCL command]

The **help** command is used to request assistance with CCL commands. The resulting display will be concise with syntax and specific to the current database system, i.e., BRS, etc. You may execute the **help** command from the CCL prompt by entering **help** followed by a valid CCL command. You may also get a list of valid CCI commands by entering **help**.

HISTORY

Syntax: **history** set history [number]

The CCL keeps a log, or a history, of commands, which can be recalled and edited, or recalled and executed. The CCL **history** command defaults to the last 10 commands; however, you may set the number of commands you wish to be kept in the history file using the CCL **set history** command If you want to use that same search statement, or modify it, you can recall the commands and edit and/or execute them instead of re-keying the data. To recall previous commands individually, use <CTRL>p and <CTRL>n. If you want to erase a command, press <CTRL>u.

NATIVE

Syntax: **native** [command]

The **native** command allows the experienced user to select the native command language of the selected database. It also allows you to perform a specific function offered in the database system that is not offered in the CCL. There are two ways to use the **native** command. First, you may enter a command string directly after entering the native command and then press the <Enter> key. Following execution of the **native** command, you will be returned to the CCL prompt.

Example: **native** ..print 1 f3/doc=1-10

In this example, the BRS database system had been selected. This represents a native print command on set 1, documents one through ten using the f3 format. Because the native command is followed immediately by a search string, just this one command will be executed in the BRS native command mode. As soon as it has been performed, you will return to the CCL prompt and all subsequent commands can be performed in the CCL mode. The second way to use the **native** command is to enter just native, and press <Enter>. The CCL will assume all subsequent commands to be in the native database language until you request to return to the CCL. After entering native mode, you will see the host system's prompt (if any). To return to CCL mode, enter **ccl** from the database system's prompt and press the <Enter> key. You will return to the CCL prompt after a short synchronization period.

NOTE: Since you are no longer in the CCL mode when using the native command, syntax checking cannot be performed.

REVIEW

Syntax: **review** s[set number(s)]

The **review** command retrieves the results sets received during a current CCL session. In response to the **review** command, the set number and the search term(s) contained in that set, and the number of hits are displayed. You may enter review by itself, or you may specify the number of sets you wish to review. Remember to prefix a set number with the letter, s.

Example: **review**
All results sets received during your current CCL session will be displayed.

Example: **review** s1-s4
Only results sets 1 through 4 will be listed.

SCAN

Syntax: **scan** [term]

scan [field code]=[term]

The **scan** command is used to view an alphabetical list of index terms contained in the currently selected database.

Depending on the database system, you may also receive the number of hits for that term. This feature is most often used to become more familiar with the way terms are described in a database. You may enter a complete term or a truncated term on which to scan. The appropriate variations and/or related terms will be included in your results.

Not all of the database systems supported by CCL allow you to enter a field code with a **scan** command. If you try to use a field code in a system that does not support it, a message will be generated indicating that this is the case, and your command will be performed without a field code restriction.

NOTE: After you have performed a scan command and received a list of indexed terms, you may perform a find command using the corresponding reference number instead of typing in the search term. For example, using the sample depicted in Figure 6, if you wanted to search on "space" and "deep space", you could enter: find r01 or r08.

Example: **scan** space

In this example, an index of terms that contain "space" will be listed. A sample of the results to this search (done in NASA-RECON) can be seen below.

```
CCL>scan space
1 TS/space
     EXPAND TS/SPACE
REF      DESCRIPTOR                    TP       OCC       TS
R01      -ST/SPACE                     N         61       10
R02      RT/ALGEBRA                    N       2608       57
R03      RT/ANALYSIS (MATHEMATICS)     N       3115      207
R04      RT/CARTAN SPACE               N         85        4
R05      RT/CISLUNAR SPACE             N        105        9
R06      RT/DEEP SPACE                 N        412        9
R07      RT/FRACTALS                   N        581       11
R08      RT/FUNCTION SPACE             N       1205       13
R09      RT/HYPERSPACES                N        321        6
ENTER:
CCL>
```

SET

Syntax: **set** [variable] [value]

There are several variables which can be set at any point during a CCL session. These variables control many aspects of the search process including the display format, the number of commands recorded in the history file, verbose mode, and the ability to capture results. 4.13.1 set display syntax: set display [long, short, usr1, or usr2] set [usr1 or usr2] [field code],[field code],... You may set the display format to default to one of the four formats—long, short, usr1, or usr2. The CCL default format is long. To change this setting, enter:

Example: **set** display usr1
set display short

After you have set the display format to your preference, you can omit the display format parameter when executing a display command. For example, if you set the display format to usr1, as shown in the first example above, and you executed a **display** command omitting the "usr1" parameter, CCL will use the new default, which is usr1. You may still include any of the four formats in a **display** command independent of which format the display command is set to use. This just sets the default value in the event you do not specify a display format.

Additionally, you may customize two of the four display formats—**usr1** and **usr2**—using the **set** command. You may specify which of the CCL field codes should be included in **usr1** and **usr2**. For example, you may want the usr1 format to include author, title, and abstract and the usr2 format to include author, title, publication date, and abstract.

Example: **set** usr1 au, ti, ab
set usr2 au, ti, pd, ab

SET HISTORY

Syntax: **set history** [number] history

The CCL keeps a log, or a history, of commands, which can be recalled and edited, or recalled and executed. You may set the number of commands you wish to be kept in the history file using the CCL set history command. The default for the number of commands contained in the history file is 10, but you can set it to any number; there is no limit.

Example: **set history** 25
set history 50

When you execute the **history** command, by entering history, you will see a list of the last 25 (or 50) CCL commands you have entered.

You may also use special <CTRL> keys to recall previously entered CCL commands. For instance, <CTRL>p recalls each CCL command so that you can either use it again, or modify it and re-execute it. If <CTRL>p does not recall a command you are looking for, use CTRL>u to clear the line and begin again with a new CCL command.

SET SAVE

Syntax: **set save** [filename]

The **save** command allows you to capture CCL results to a file. It also records all of the commands you enter during a CCL session.

For example, you want to save the results in set 3 to a file named "results3". First, enter **set save *results3*** and press <Enter>. Next, enter **display s3 long** all to display all of the results in set 3 in the long format. When the display is finished and you are at a CCL prompt, enter **set save off** to close "*results3*". You now have a file in your home directory named "results3" containing all of the results to set 3.

Example: **set save** *results3*
set save off

You may receive a message in response to a **set save** command indicating that the filename you have entered already exists. Enter one of the three options (A to append, O to overwrite, or Q to quit) or enter a new filename.

If you do not enter a filename with the set save command, a default file will be created in your home directory called **save_data**.

SET VERBOSE

Syntax: **set verbose** on
set verbose off

The **verbose** command controls the amount of detail displayed on your screen during a search. The CCL acts as a translator for multiple database systems. As such, you may wish to see the actual translation between the CCL commands and the database system you have selected. By turning the verbose mode on, you will see exactly how the CCL translates the commands into the host database language. If verbose is off, you will see only the CCL command and the response from the database.

Using verbose on mode is one way to determine the syntax for performing a native command. Execute a similar request in CCL with verbose mode on and make a note of the translation. Now you have the information you need to perform that same request in native mode.

The default for verbose mode is off.

Example: **set verbose** on
set verbose off

SHELL

Syntax: **shell**

Within the CCL, you have the option to temporarily exit out of the program and access a UNIX system prompt. This may come in handy when you want to check the contents of a file before it is overwritten. The command to exit CCL and go to the system prompt is **shell**.

To return to the CCL, enter: **exit** from the UNIX system prompt. Your cursor will return to the CCL prompt indicating that you are once again in the CCL mode.

SHOW

Syntax: **show**
show [variable]

Once you have set the configuration parameters for your CCL session, you may want to double-check them. This is done using the **show** command. You may use this command either by itself or in conjunction with one of the parameters. The following example illustrates each instance.

Example: **show**
show display
show defines
show history
show save
show usr1
show usr2
show verbose

The response to the **show** command by itself is displayed below.

```
CCL> show
      display :=  LONG
      history :=  10
         long :=  LONG
         save :=  OFF
        short :=  SHORT
         usr1 :=  LONG
         usr2 :=  LONG
      verbose :=  OFF
      defines :=  NONE
```

SORT

Syntax: **sort** [field code][+ or -],[field code][+ or -],... [set number] [record number(s)]

The **sort** command allows you to place your results in a particular order, based on one or more field codes. This can be done before you display results as well as afterwards. You must indicate the set number and which field code(s) you wish to use If you want to sort using more than one field code, you must separate them by commas. Additionally, you can elect to sort only specific record numbers, and you may specify ascending or descending order using the + and - characters, respectively, immediately next to the appropriate field code. The following example shows set number 8, records 30-40 being sorted by author in ascending order and publication date in descending order. (Note: The default sort order is ascending.)

Example: **sort** au+, pd- s8 30-40

At least one sort value must be specified. If you opt to enter more than one, the priority of sorting will be from left to right. If no set number is stated, the CCL defaults to the most recent results set. If no record numbers are stated, all records will be sorted.

NOTE: Some database systems impose a limit on the number of records that can be sorted. If you should experience this, a message will be returned indicating the sort limit has been exceeded. Also, some databases support only ascending order. Again, an error message will be returned should you request descending order.

STOP

In order to sign-off of CCL, enter the command **stop** from the CCL prompt. It is very important that you DO NOT exit a database system when in native mode. You must be at a CCL prompt in order to exit the program and stop all processes correctly.

CHAPTER 8 - BIBLIOGRAPHIC POST-PROCESSING

Bibliographic post-processing is one of the most powerful and unique features of DGIS. This feature can help librarians, information specialists, engineers, researchers, and other end-users make better use of the wealth of information available on a large number of commercial and government bibliographic retrieval systems. The variety of citation formats used by database suppliers and vendors makes it very difficult to prepare bibliographies or to analyze citations from several databases. By first standardizing all citations, DGIS enables you to analyze the citations from several databases and put them into a more useful format.

OVERVIEW OF POST PROCESSING

MAJOR CAPABILITIES

The DGIS bibliographic post-processing features enable you to analyze, review, and rearrange downloaded citations to better suit your needs. Possible uses of the citation analysis features include identifying relevant search terms to further refine a search and tracking the research interests of a group of authors. The bibliography preparation features can be used to prepare indexes and sorted bibliographies. Major DGIS features include the following:

- reformatting downloaded files into a standard bibliographic format
- merging files into a single file
- elimination of duplicate citations
- analysis of the frequency of use of all fields
- counting frequencies of terms within a specified field
- cross-correlation of fields
- preparation of detailed indexes
- sequential review of citations
- multiple-level sort
- citation formatting for bibliographies.

This chapter includes examples of how to do each of these post-processing activities.

REQUIREMENTS FOR POST PROCESSING

Before you begin post-processing, you must have a file containing bibliographic citations with field tags for the fields you will use for analysis, sorting and bibliography preparation. The file can be the result of a DGIS search or a search you transferred into your DGIS account.

You can use the DGIS post-processing features with files downloaded from the following database vendor systems:

- BRS
- DIALOG (format 5 tagged citations only)
- ORBIT
- DTIC TR (technical reports)
- DTIC WUIS (work unit citations)
- NASA/RECON

Search hints for each of these systems appear in the Appendix G, Vendor Search Hints. Refer to the Appendix F, Vendor Information for the addresses and phone numbers of the User Assistance Offices for each vendor system. For a general discussion of searching bibliographic databases, see the chapter **"Bibliographic Searching Overview"**.

USE OF FILES IN POST-PROCESSING

Every post-processing option starts with one or more input files and creates one or more output files. The output file from one process can then be used as the input file for another process. For example, the **reformat** process starts with a file of downloaded citations from a particular vendor system and produces a file with the same citations in DGIS standard bibliographic format. This file can then be used as the input to other processes like sorting or analyzing fields.

It will be easier to keep track of files if you use descriptive names that reflect the content. File names can be up to 14 characters long (including special characters such as "." and "-"). For instance, you might give the name 'remote' to a file containing citations about remote sensing. If you have downloaded files about remote sensing from several databases, such as **NTIS** on **DIALOG, DROLS**, and **NASA/RECON**, you might call these files 'remote.nt-di', 'remote-dr', and 'remote-na' respectively. These names illustrate the use of "." and "-" in DGIS file names.

FILE NAMING CONVENTIONS

The filenames include an extension which reflects the process that created them. You can tell from the extension which files are most appropriate to use as the input for the different processes. The following are the extensions provided by the system.

<filename>.ref	reformatted files from various databases
<filename>.junk	non-relevant data in reformatting
<filename>.mrg	merging of raw files from various databases
<filename>.dup	duplicate citations
<filename>.uniq	unique citations after duplicates removed
<filename>.stat	statistical report showing fields in file
<filename>.cnt	number of times terms appear
<filename>.crs	compare contents of one field with another
<filename>.rev	review citations for keep, discard or order
<filename>.sort	sort citations by selected fields
<filename>.indx	index to bibliography
<filename>.fin	final bibliography
<filename>.auto	automatic post-processed bibliography

These conventions will be used in the following examples of each post-processing feature. The .junk files are discussed in the section on reformatting files.

DEFAULT INPUT FILE

At the beginning of every process, you will be prompted for an input file name. You are given the opportunity to type "l" for "list" to see previous file names. The name of the last file of the appropriate type you used will appear as the default. To use that file, just enter <RETURN>. If you are doing a series of processes that take the output from one as the input to the next, the default file name feature will save retyping the **filenames**.

OUTPUT FILE HEADERS

Every output file contains a header about the origin of the file. The information provided includes: date and time created, post-processing activity, options requested, and the names of the input and output files.

HANDLING RESULTS

Some processes require you to save the results in a file. However, during other processes, you can specify whether the output of the process should be displayed on your screen only, should be saved in a file only, or both. The default is to display on the screen. This will enable you to determine the results without accumulating extra files.

EXISTING FILES

If you enter an output file name that you have already used, you will see a message indicating that a file with that name already exists. You can then choose to overwrite it, or choose a new name. To help pick a new name, you will also have the option at that point to see a list of all the files in your current directory.

LISTING FILE NAMES

Before you begin a post-processing session, you may want to list the names of your files. To do this, enter **list** at any general DGIS prompt. The file names and directory names in your current directory will be listed. For a discussion of files and directories, refer to the chapter "File Operations".

DISPLAYING FILES

You can see the results of your post-processing activities by entering the command **display**, followed by the name of the file, at any General DGIS prompt.

Using Bibliographic Post-Processing

Bibliographic Processing Steps

The following steps should be followed for the majority of post-processing sessions:

- reformat the downloaded files into the DGIS standard format
- merge related files into a single file
- eliminate duplicates
- analyze citations
- prepare a bibliography.

Some of these steps can be eliminated if appropriate. For instance, you need not include the merging and duplicate elimination steps if you are using only one file. In some instances, you will not need to analyze citations in order to prepare a bibliography, or if citation analysis is your desired product you may not need a bibliography. If you do not want to go through each step in post processing, select the automatic feature and it will all be done for you.

THE PROCESS MENU

To begin post-processing, enter *process* or *3* at the DGIS Main menu prompt. You can also press the <SPACEBAR> to move the asterisk to option 3. Then press <RETURN>.

```
          WELCOME TO THE DoD GATEWAY INFORMATION SYSTEM
  >>>>>>>>>>>>INFORMATION TRANSFER MODULES
  1       directory       DGIS Directory of Resources
  2       communicate     Connect to Information Resources and  People.
* 3       process         Information product tailoring.

  >>>>>>>>>>>>INFORMATION UTILITIES
  4       em              Electronic Mail.
  5       files           File operations.

  >>>>>>>>>>>>SUPPORT INFORMATION
  6       help            Description of features.
  7       users           DGIS registered users.
  8       info            DGIS news and information.
  9       utilities       Misc. utilities,  change passwd.
DGIS HOTLINE NUMBER:  (703) 274-7791 or (DSN) 284-7791
or send questions via DGIS EM to 'dgishelp'.
Enter a menu number, a command, "b" to backup, "t" for top, or  "e" to
end:
* 3
```

You will then see the Processing Information menu.

```
3              PROCESSING INFORMATION
```

This capability allows you to process your bibliographic or numeric information in your downloaded files. Select as follows:

```
* 1    biblio      Processing bibliographic information.
  2    numeric     Processing numeric data.
Enter a menu number, a command, "b" to backup, "t" for top, or  "e" to
end:
* biblio
```

Enter *biblio* or *1* from the Processing Information menu to get to the Bibliographic Processing menu.

BIBLIOGRAPHIC PROCESSING

Bibliographic processing will allow you to standardize your downloaded files and merge them into a single working file. You will then be able to process that file into a finished bibliography tailored to your needs.

```
*  1     reformat      Reformat citations into DGIS standard  format.
   2     merge         Merge reformatted files into a single  file.
   3     duplicate     Eliminate duplicate citations.
   4     analysis      Go to citation analysis menu.
   5     prepare       Go to bibliographic preparation menu.
   6     news          What's new on bibliographic processing.
   7     automatic     Reformat, duplicate elimination, sort,  and final.
Enter a menu number, a command, "b" to backup, "t" for top, or  "e" to
end:
*
```

This is the primary menu to use for bibliographic post-processing. You can also proceed directly to this menu by entering the command **biblio** at any general DGIS prompt.

The menu options **reformat**, **merge**, and **duplicate** enable you to process your citations before analyzing them or formatting them into bibliographies.

HELP

During each process, at nearly every step where you are prompted for information, entering *h* for **help** will give you an explanation of what you need to do at that point.

QUIT

If you are in the middle of setting up some process and wish to stop instead of continuing to respond to prompts, entering *q* for **quit** at any prompt will end that process and return you to a DGIS menu.

ABORTING A PROCESS

If you want to interrupt some process that DGIS is in the middle of carrying out, enter <CTRL>C. The results produced up to that point will be saved in the file you specified for the output.

BIBLIOGRAPHIC PROCESSING

REFORMATTING FILES

Purpose of Reformatting Files

In order for DGIS to process citations, it has to be able to recognize the various parts of the bibliographic citations. Since each vendor system uses a different set of field tags, the reformatting of downloaded files into a DGIS standard format is key to all further processing. Reformatting involves the uniform labeling of the most important fields for analysis and bibliographies. Appendix II, DGIS Standard Fields, contains a list of the most common DGIS field labels.

Steps in Reformatting Files

To begin the reformat process, enter **reformat** or */* from the Bibliographic Processing menu. You will see the following at the top of your screen. Enter the name of a file containing citations downloaded from one of the seven vendor systems which post-processing supports. This example will transform the initial downloaded file 'gatentisd' which contains the results of a search about gateways on the **DIALOG NTIS** database into a DGIS format.

```
                                        + - - -  At Any Prompt   - - - +
==============                            Enter <CR> for  default (D)
REFORMAT                                  Enter  'h <CR>' for  help
==============                            Enter  'q <CR>' to  quit
```

Use only with a RAW DOWNLOADED file.

```
FILE TO PROCESS?:          Last File Used (D):
=> Enter file name, or "l" to list files  =>    gatentisd
Using the file:  gatentisd
```

Next enter the number which corresponds to the vendor system from which your citations were downloaded. In this example the citations were from DIALOG. If you enter the wrong number, the **reformat** process will not work.

```
SOURCE SERVICE?: 1  DTIC TR      3  NASA/RECON    5  DIALOG    7   STN
                 2  DTIC WUIS    4  BRS           6  ORBIT

=> Enter option number  =>  5
```

USING DIALOG REFORMATTER

If you are reformatting citations from one of the commercial vendor systems which offer many different bibliographic databases, you will also be prompted for the name of the specific database. You can enter the text in whatever form you want. In this example the citations were from NTIS.

```
DATABASE SOURCE (name or number)? =>   ntis
Using ntis
```

Enter a name for the new file which will contain the same citations reformatted with the DGIS field labels. Following the suggested convention for reformatted files, the new file will be 'gatentisd.ref'.

```
RESULTS MUST BE SAVED (A .ref extension will be added).
Enter file name   =>   gatentisd
```

```
      Working   Please wait   (To interrupt: Control-C)
36  total citations processed
      Results saved in file gatentisd.ref.
      Option completed.
Enter <RETURN>  to continue
```

When the reformat process is complete, you will see a message with the total number of citations that were recognized, reformatted, and put into the new file. The file 'gatentisd.ref' now contains 36 citations in DGIS standard format.

DGIS STANDARD FORMAT - REFORMAT FILES

The following is an example of a citation in DGIS standard format. The file header is included and the text of the abstract, except the first line, has been omitted here for convenience.

```
Wed Mar 29 14:54:48 EST 1993
Using REFORMAT
Option(s): DIALOG
Input file: gatentisd
Output file: gatentisd.ref
<ACCESSION NO.>  DIALOG  1315598
<CITATION NUMBER>      0001
<DATABASE SOURCE>      DIALOG ntis
<REFORMATTING DATE>    Wed Mar 29 14:54:27 EST 1993 (607204467)
<DOWNLOAD DATE>        Wed Mar 29 14:36:59 EST 1993 (607203419)
<DOWNLOAD FILE NAME>   gatentisd
<PUB DESC>             AD-A189 750/3/XAB Technical rept.    33p
<TITLE>    Scientific and Technical Information Network  (STINET).
Foundation for Evolution
<AUTHORS>    Cotter  G  A
<CORPORATE AUTH>    Defense Technical Information Center   Alexandria  V A
Office of Information Systems and Technology.
<CORPORATE AUTH CODE>    062640001; 412566
<RN>    DTIC/TR-88/5
<DATE>    1987
<LANGUAGE>    English
<PC>    PC A03/MF A01
<JA>    GRAI8813
<COUNTRY>    United States
<ABSTRACT. This paper describes advances which are being made in information
<DESCRIPTORS>   Artificial intelligence; Barriers; Department of Defense;
*Information  retrieval; *Information systems; Networks; Technical
information centers; User needs; *Man computer interface; Management
<SECONDARY DESCRIPTORS>    STINET(Scientific and Technical Information
Network); DOIS(DoD Gateway Information Systems); Networking;
Gateways; End use; NTISDODXA
<CATEGORIES>    88B  (Library and Information Sciences-Information
Systems);       88A  (Library and Information Sciences-Operations and
Planning);      88C  (Library and Information Sciences-Marketing and
User Services); 55O  (Biomedical Technology and Human Factors
Engineering-Human Factors Engineering)
```

This is the same record that appears in its original, downloaded form in the chapter "Bibliographic Searching Overview". Five new fields are added to each record indicating: citation number, database source, reformat date, download date, and name of original download file.

Vendor field tags that the reformat process does not recognize are left in their original form, such as **JA** for Journal Announcement.

In addition to changing the field tags, the reformat process also modifies the content of some fields. Author names **<AUTHORS>** appear in the following format: last name followed by first and middle initials. No full first names are provided in the DGIS standard format. Author names **<AUTHORS>** and corporate author names **<CORPORATE AUTH>** do not include commas and periods. Full text fields and long abstracts are truncated. The message **(full text truncated)** is inserted in the middle of the field to indicate where some original text was deleted.

During the reformat process, any text from your original downloaded file that is not recognized as part of a bibliographic citation is automatically put into another new file that has the same name as the file being processed with the extension ".junk". In this example, the file is **'gatentisd.junk'**.

The type of text usually found in these files includes search strategy commands, print commands, numbers corresponding to each displayed citation, and logout information. You should always look at the .junk file to check whether it contains any text that might belong in a citation, or any evidence that something went wrong during the download process that created your original file.

MERGING FILES

PURPOSE OF MERGING FILES

You can combine several searches into a single file before doing citation analysis or preparing a bibliography. Unless the individual files are from the same vendor system, you should merge only files that have already been reformatted into DGIS standard format.

STEPS IN MERGING FILES

To begin the merging process, enter **merge** or *2* from the Bibliographic Processing menu. You will see the following at the top of your screen.

```
Please enter the names of the FILEs to be 'merged', separating  each FILE
name by a space (i.e., FILE1 FILE2 FILE3), '1' to list files, or  'q' to
quit
* gatentisd.ref  gatentisb.ref  gatedrols.ref
```

Enter the names of the files you want merged into a single file. The files will be appended to each other in the order you specify, with the records in the first file at the beginning. In this example there are three files containing records about gateways in DGIS standard format: 'gatentisd.ref' from **NTIS** on **DIALOG** (36 citations), 'gatentisb.ref' from **NTIS** on **BRS** (140 citations), and 'gatedrols.ref' from **DTIC TR** (41 citations).

Enter a name for the new file which will contain the results of merging your individual files. The name **'gateall.ref'** indicates that this is a DGIS file containing the results of all the searches about gateways that have been reformatted and are ready for merging.

```
Enter the name of the FILE to contain the merged FILEs, 'l' to list files, or
'q' to quit. (A .mrg extension will be added.)
*  gateall
```

When the merge process is complete, you will see a message with the names of the files that were merged and the new file.

```
Merge in progress
Merge completed.
Files: gatentisd.ref  gatentisb.ref  gatedrols.ref
merged into FILE: gateall.mrg
Enter <RETURN> to continue
```

RESULTS OF MERGING FILES

When files are merged, the information headers are removed from the individual files and a new header added. Below is the header and beginning of the first record of a merged file.

```
Mon Apr  3 16:37:03 EDT 1993
Files Merged:   gatentisd.ref gatentisb.ref gatedrols.ref
Output file:   gateall.mrg
<ACCESSION NO.> DIALOG  1367272
<CITATION NUMBER>     0001
<DATABASE SOURCE>     DIALOG ntis
<REFORMATTING DATE>   Mon Apr  3 16:31:01 EDT 1993 (607638661)
<DOWNLOAD DATE>       Wed Mar 29 14:36:59 EDT 1993 (607203419)
<DOWNLOAD FILE NAME> gatentisd
<PUB DESC>    DE88016172/XAB    25p
Metallurgical Society fall meeting, Cincinnati, OH, USA, 10 Oct  1988.
<TITLE> Interactive Access to Scientific and Technological Factual
Databases Worldwide
<AUTHORS>     Hampel  V  E ; Grubb  D  P ; Moulik  A
<CORPORATE AUTH>   Lawrence Livermore National Lab   C A
```

ELIMINATING DUPLICATES

PURPOSE OF ELIMINATING DUPLICATES

If your citations come from several databases with overlapping subject coverage, you may have multiple copies of some citations. The duplicate elimination feature allows you to specify how to identify duplicates and which ones should be deleted. Duplicates sometimes appear even in the same database.

The identification of duplicates is a complex process due to the large number of bibliographic citation formats in use. For instance, author names can appear in mixed case or all upper case, with or without punctuation, with complete first names or initials only. To a lesser extent, there are similar problems with titles and journal names.

Since the duplicate elimination process only works on DGIS reformatted files, punctuation in author names has already been removed. In addition, the duplicate elimination process will ignore case and extra spaces in determining whether the content of the same field in two different citations is really identical.

STEPS IN ELIMINATING DUPLICATES

To begin the duplicate elimination process, enter **duplicate** or *3* from the Bibliographic Processing menu. You will see the following at the top of your screen.

Enter the name of the file to check for duplicates. This example will use the file 'gateall.ref', the results of merging all the DGIS reformatted files on the subject of gateways.

```
**************                                  Enter <CR>  for  default (D)
DUPLICATE                                       Enter  'h <CR>' for  help
**************                                  Enter  'q <CR>' to  quit

Use only with a REFORMATTED file.
FILE TO PROCESS?:          Last File Used (D):
** Enter file name, or "l" to list files  =>   gateall.ref
Using the file:  gateall.ref
```

You can select up to four fields for comparison in identifying duplicate citations. At each prompt, enter the number corresponding to a field you have chosen: **author, category, country, descriptor, title, date.** When you are finished, enter *d* for done.

In this example, comparisons will be made of the author, title and date fields.

If you want to use at least one field that is not included in the list, enter *s* for special at the first prompt. Respond with the exact DGIS field label to use which can be found in Appendix H, DGIS Standard Fields. For example, to use the corporate author field for comparison, enter *CORPORATE AUTH.* You must then continue to use exact field labels for any other fields.

If you are not sure whether all the citations in your field actually include a specific field, or the exact format of a field label, use the stat process described in the next section to determine how frequently each field appears in the file.

```
FIELDS TO USE TO DETERMINE   1  author      3  country       5    title (D)
IF CITATION IS A DUPLICATE:  2  category    4  descriptor    6    date  (D)
FIELD #1  (of up to 4)?:
** Enter option number or 's'pecial =>  1
FIELD #2  (of up to 4)?:
** Enter option number, 's'pecial, or 'd'one =>    3
FIELD #3  (of up to 4)?:
** Enter option number, 's'pecial, or 'd'one =>    6
FIELD #4  (of up to 4)?
** Enter option number, 's'pecial, or 'd'one =>    d
Deleting duplicate citations based on fields:   author title  date
```

When two citations are identified as the same, one will be kept and the other deleted. You have four options to choose from: the first record found, the shorter record, the record which is not from a specified vendor (database), or you can view each pair and reject one of the citations.

If you use option 2 with a merged file from several search sessions, the order of files specified in the merge process determines which duplicate citation appears first.

In option *1*, the shorter record is the one with the fewer number of characters in the entire citation.

```
CITATION TO DELETE?:  1  Shorter(D)  3  Non-Member (of Selected Database)
                      2  First       4  Viewed & Rejected
== Enter option number => 3
```

If you choose option 3, you will see the following prompt. Enter the number corresponding to the vendor system you want to keep. If duplicates are either both members or non-members of the selected vendor system, deletion will be based on size, as in option *1*.

If you use option *4* with a large file and many duplicates, it may take a long time to review each pair of identical citations.

```
DATABASE TO PREFER?:     1  DTIC-TR     3  NASA/RECON  5  DIALOG   7  STN
                         2  DTIC WUIS   4  SRS         6  ORBIT
 == Enter option number => 4
```

If you want to save the duplicate citations, enter *2* and a name for the file with the deleted citations. Following the suggested convention for duplicate citations, this new file will be '**gateall.dup**'.

```
SAVE DUPLICATE CITATIONS?:       1  No (D)        2  Yes
== Enter option number => 2
== Enter file name (to hold duplicates) => gateall
Duplicate citations will be removed and saved in the file    gateall.dup


RESULTS MUST BE SAVED  (A .dup extension will be added)
== Enter file name => gateall
```

Enter a name for the file which will contain all your unique citations. Following the process, this new file will be '**gateall.uniq**'.

When the duplicate elimination process is complete, you will see a message with the total number of duplicate citations found and deleted. The file '**gateall.uniq**' now contains 42 fewer citations than the original file, '**gateall.ref**'.

```
      ..Working   Please wait   (To interrupt: Control-C)
42 total citations removed.
       Results saved in file gateall.uniq.
       Option completed.
Enter <RETURN> to continue
```

RESULTS OF ELIMINATING DUPLICATES

The duplicate elimination process compares the content of the fields you specified and creates a new file of unique citations based on these criteria.

```
Mon Apr  3 16:41:53 EDT 1993
Using DUPLICATE
Option(s):  author title date
Input file:  gateall.ref
Output file:  gateall.uniq
<ACCESSION NO.> DIALOG   1367272
<CITATION NUMBER>     0001
<DATABASE SOURCE>     DIALOG ntis
<REFORMAT DATE>       Mon Apr  3 16:31:01 EDT 1993 (6076B5661)
<DOWNLOAD DATE>       Wed Mar 29 14:36:59 EDT 1993 (6072C3419)
<DOWNLOAD FILE NAME> gatentisd
<PUB DESC>     DE88016172/XAB        25p
Metallurgical Society fall meeting, Cincinnati, OH, USA, 10 Oct  1988.
<TITLE> Interactive Access to Scientific and Technological  Factual
Databases Worldwide
<AUTHORS>     Hampel  V  E ; Grubb  D  P ; Moulik  A
<CORPORATE AUTH>     Lawrence Livermore National Lab   C A
```

If you chose to save the duplicates found, you will also have a second new file containing the deleted citations. In this example, **'gateall.dup'** contains 42 citations and the header indicates it contains duplicates.

```
Mon Apr  3 16:41:52 EDT 1993
Using DUPLICATE
Option(s):  author title date
Input file:  gateall.ref
Output file:  (for saved duplicates) gateall.dup
```

Remember that your idea of a duplicate record may not be exactly the same as the DGIS elimination process. Depending on the particular databases and vendor systems, using too few fields may eliminate some citations that are not really duplicates, while using too many fields may fail to detect real duplicates. For general purposes, using title and date will yield fairly reliable results.

CITATION ANALYSIS

There are three types of analysis you can do with a file of DGIS standard format citations: statistical analysis of frequency of fields, analysis of terms within individual fields, and cross correlation of terms in two fields.

Bibliographic Processing

After you have standardized your downloaded files and merged them into a single working file, you will then be able to process that file into a finished bibliography tailored to your needs.

Enter **analysis** or *4* from the Bibliographic Processing menu to get to the Citation Analysis menu.

```
  1     reformat      Reformat citations into DGIS standard  format.
  2     merge         Merge reformatted files into a single  file.
  3     duplicate     Eliminate duplicate citations.
* 4     analysis      Go to citation analysis menu.
  5     prepare       Go to bibliographic preparation menu.
  6     news          What's new on bibliographic processing.
  7     automatic     Reformat, duplicate elimination, sort,  and final.
Enter a menu number, a command, "b" to backup, "t" for top, or  "e" to
end:
*  4
```

Citation Analysis

There are three types of analysis you can do with a file of DGIS reformatted citations: statistical analysis of frequency of fields, analysis of terms within individual fields, and cross correlation of terms in two fields.

The Citation Analysis menu permits you to perform a number of bibliographic analyses on your reformatted file, as follows:

```
* 1      stat      Statistical analysis of frequency of fields.
  2      count     Count number of times term appears in a  field.
  3      cross     Correlate frequency counts for two fields.
Enter a menu number, a command, "b" to backup, "t" for top, or  "e" to
end:
*
```

STATISTICAL ANALYSIS

PURPOSE OF STATISTICAL ANALYSIS

This process creates a report showing all the fields used in a file. Each field is listed and the frequency with which the field appears is given.

The **stat** option can help you determine which fields in a particular file are most frequently used and therefore most useful for eliminating duplicates, sorting, or creating indexes. You can also see the exact labels for fields you want to specify for use in many of the other post-processing options.

STEPS IN STATISTICAL ANALYSIS

To begin the statistical analysis process, enter **stat** or *1* from the Citation Analysis menu. You will see the following at the top of your screen.

Enter the name of the file you want analyzed. In this example, the file with the duplicates deleted, '**gateall.uniq**', will be used.

```
                                        + - - -  At Any Prompt   - - - +
==============                             Enter <CR>  for  default (D)
STAT                                       Enter  'h <CR> '  for  help
==============                             Enter  'q <CR> '  to  quit

Use only with a (REFORMATTED) file.
FILE TO PROCESS?:         Last File Used (D):  gateall.ref
-- Enter file name, or 'l' to list files =>   gateall.uniq
Using the file:  gateall.uniq
```

If you do not want to save the results in a file, just enter <RETURN> for the default and you will see the statistical report on your screen only.

If you want to save the results in a file, enter *2* for the file only or *3* for screen display and file.

Enter a name for the new file containing the statistical analysis report. In this example, **'gateall.stat'** suggests this is the statistics for the file 'gateall'.

```
HANDLE RESULTS?:     1  Display (D)     2  Save in file      3   Both
** Enter option number => 2
** Enter file name (to hold results) => gateall

Results will be saved in the file    gateall.stat.
```

If you did not choose to see the results displayed on your screen, you will just see a message when the process is complete.

```
      ..Working   Please wait   (To interrupt: Control-C)
      Option completed.
Enter <RETURN>  to continue
```

RESULTS OF STATISTICAL ANALYSIS

The statistical analysis process creates a file indicating the frequency with which each field appears in the file specified for analysis.

```
Mon Apr  3 16:43:56 EDT 1993
Using STAT
Option(s):   N/A
Input file:  gateall.uniq
Output file:  gateall.stat
STATISTICS FOR FILE: gateall.uniq on Mon Apr  3 16:43:51 1993
No.   Count   Per%     Field-Name
1:      175   100%     <ACCESSION NO.>
2:      175   100%     <CITATION NUMBER>
3:      175   100%     <CORPORATE AUTH>
4:      175   100%     <DATABASE SOURCE>
5:      175   100%     <DATE>
6:      175   100%     <DOWNLOAD DATE>
7:      175   100%     <DOWNLOAD FILE NAME>
8:      175   100%     <PUB DESC>
9:      175   100%     <TITLE>
10:     175   100%     <REFORMAT DATE>
-------------------------
11:     174    99%     <ABSTRACT>
12:     157    89%     <DESCRIPTORS>
13:     146    83%     <AUTHORS>
14:     140    80%     <CATEGORIES>
15:     140    80%     <SECONDARY DESCRIPTORS>
16:     105    60%     <JN>
17:     105    60%     <PR>
18:     100    57%     <RN>
19:      50    28%     <CN>
20:      47    26%     <DOCUMENT TYPE>
```

The most frequently appearing fields are listed first, with the others following in descending order of frequency. There are four columns in a statistical analysis report. The column labeled "No." contains the number assigned to the field for the report. "Count" tells you how many of the citations in your file contain the field. "Per" tells you the percentage of the citations that contains the field. The column "Field-name" shows the exact format of the field label. The field names that are spelled out are the ones that the reformat process substituted for the vendor-specific field tags. The others are the original vendor field tags, enclosed in brackets during the reformat process. All the fields which are present in 100% of the records appear above the horizontal line.

In this example, notice that only 83% of the citations have an author field. Therefore, the 17% without the author field would all appear at the very beginning of a file that was sorted in ascending order by author. Also, note that author would not be a good field to use in the duplicate elimination process for this file because not all citations have an author field.

FREQUENCY COUNT

PURPOSE OF FREQUENCY COUNT

You can analyze the contents of a variety of fields by counting the number of times different terms appear. This feature has many uses. For example, you can determine which authors appear in a subject search or determine the subjects of interest in an author search. You can also use it to determine additional terms for refining a search.

STEPS IN FREQUENCY COUNT

To begin the count process, enter **count** or *2* from the Citation Analysis menu. You will see the following at the top of your screen.

Enter the name of the file to process. In this example, just enter <RETURN> for the default file **'gateall.uniq'.**

```
                                          + - - -  At Any Prompt  - - - +
==============                              Enter <CR>  for  default (D)
COUNT                                       Enter  'h <CR>' for  help
==============                              Enter  'q <CR>' to  quit

Use only with a REFORMATTED file.
FILE TO PROCESS?:        Last File Used (D):  gateall.uniq
== Enter file name, or 'l' to list files  =>
Using the file: gateall.uniq
```

Enter the number corresponding to the field you want counted; abstract, author, category, descriptor, title, date. In this example, just enter <RETURN> for the default of author.

```
 FIELD?:          1  abstract        3  category        5  title
                  2  author  (D)     4  descriptor      6  year
 == Enter option number or 's' special =>
Using default field:  author
```

In fields like author or descriptor, which may have multiple entries, each author or each descriptor is counted. In fields like title or abstract, which contain English text, the occurrence of individual words and phrases up to four words in length are counted.

If you want to count a field that is not included on the list, enter s for **special**. Respond to the prompt with the exact DGIS field label to use as listed in Appendix H. For example, to count the occurrence of all corporate authors in a file, enter *CORPORATE AUTH*.

If you are not sure whether all the citations in your file actually include a specific field, or the exact format of a field label, use the **stat** process described in a previous section.

If you do not want to save the results in a file, just enter <RETURN> for the default and you will see the count results on your screen only.

If you want to save the results in a file, enter *2* for file only or *3* for both screen display and file.

Enter a name for the new file to contain the results of count. In this example, **'gateall.cnt'** suggests that this is the author count for the file **'gateall'.**

```
HANDLE RESULTS?:       1  Display (D)     2  Save in file      3   Both
==> Enter option number => 2
==> Enter file name (to hold results) => gateall (A .cnt extension will be
added.)
```

If you did not choose to see the results displayed on your screen, you will just see a message when the process is complete.

```
..Working .. Please wait ..  (To interrupt: Control-C)
  Option completed.
Enter <RETURN> to continue
```

RESULTS OF FREQUENCY COUNT

The **count** process creates a file indicating the number of occurrences of each term in the specified field.

The following shows part of the results of counting the **author** field.

```
  Mon Apr  3 16:47:00 EDT 1993
Using COUNT
Option(s):  author
Input file:   gateall.uniq
Output file:  gateall.cnt
16   HAMPEL V E
10   HARTT R N
 6   Cotter  G A
 5   Kuhn  A  D
 4   Bixby  R  L
 4   BURTON H D
 3   BOLLINGER W A
 3   FISHER H L
 3   KER K R
```

The most frequently appearing terms are listed first, with the others following in descending order of frequency.

The following example illustrate the results of counting the **corporate author** field.

```
Apr  4 10:34:40 EDT 1993
Using COUNT
Option(s):   CORPORATE AUTH
Input file:  gateall.uniq
Output file:  gateall.cnt
14  LAWRENCE LIVERMORE NATIONAL LAB CA DEPARTMENT OF ENERGY  WASHINGTON,
DC.  068147000 9513035.
13  Defense Technical Information Center  Alexandria  VA  Office  of
Information Systems and Technology.
11  EAST-WEST GATEWAY COORDINATING COUNCIL  EAST ST LOUIS ILL
7  Lawrence Livermore National Lab   CA
6  BOLT BERANEK AND NEWMAN INC CAMBRIDGE MA
6  LAWRENCE LIVERMORE NATIONAL LAB   CA   068147000 390999.
5  UNIVERSITY OF SOUTHERN CALIFORNIA  MARINA DEL REY
INFORMATION SCIENCES INST.  045598002 407952.
4   Defense Technical Information Center  Alexandria  VA
```

A count of the **date** field can show you the distribution of your citations over time.

```
Tue Apr  4 10:30:42 EDT 1993
Using COUNT
Option(s): date
Input file: gateall.uniq
Output file: gateall.cnt
30   1985
26   1986
23   1987
21   1984
11   1982
11   1983
10   1981
 9   1988
 8   1969
 6   1977
 3   1970
 3   1971
 3   1979
 2   1968
 2   1973
 2   1974
 2   1976
 2   1980
 1   1937
-
175   TOTAL
```

The following example shows the results of counting the **title**, a field containing English text.

```
Tue Apr  10:26:05 EDT 1993
Using COUNT
Option(s): title
Input file: gateall.uniq
Output file: gateall.cnt
59   gateway
58   information
43   system
29   information system
22   network
20   defense
17   area
17   computer
17   technology
16   gateway information
16   gateway information system
15   report
14   technical
13   intelligent
13   intelligent gateway
13   study
13   systems
12   dgis
12   intelligence
11   data
10   command
10   gateway information system dgis
10   information system dgis
10   system dgis
 9   bibliographic
```

The list includes the number of times that words and phrases of two, three and four words in length occur in the bibliographic search.

CROSS CORRELATION

PURPOSE OF CROSS CORRELATION

You can compare the contents of one field with the contents of another field within the same citation. This is useful for determining trends or relationships. For instance, you can list all the authors associated with each descriptor to find out who is working in a specific subject area. Conversely you can find all the descriptors associated with each author.

STEPS IN CROSS CORRELATION

To begin the cross-correlation process, enter ***cross*** or *3* from the Citation Analysis menu. You will see the following at the top of your screen.

Enter the number corresponding to the first or primary field for cross-correlation: **abstract, author, category, descriptor, title, date.**

This example will determine the subject areas associated with each author, so just enter <*RETURN*> for the default of author.

```
                                        + - - -  At Any Prompt   - - - +
==========                                 Enter <CR> for  default (D)
CROSS                                      Enter 'h <CR>' for  help
==========                                 Enter 'q <CR>' to  quit

 Use only with a REFORMATTED file.
FILE TO PROCESS?:    Last File Used (D):  gateall.uniq
=> Enter file name, or 'l' to list files =>
Using the file:  gateall.uniq
```

Enter the name of the file to be processed. In this example, just enter <RETURN> for the default file **'gateall.uniq'**.

```
FIELD #1  (of 2)?:     1  abstract        3  category              5  title
                       2  author (D)      4  descriptor            6  year
=> Enter option number or 's'pecial =
Using default field: 2
```

If you want to use a field that is not included on the list for either the first or second field, enter **s** for **special** at the first prompt. Respond with the exact DGIS field label to use. For example, to use corporate author as the primary field, enter *CORPORATE AUTH* .

If you are not sure whether all the citations in your file actually include a specific field, or the exact format of the field label, use the **stat** process described in a previous section.

Enter the number corresponding to the second field: accession number, author, category, descriptor, title, date. In this example, just enter <RETURN> for the default of descriptor.

```
FIELD #2 (of 2)?: 1  Accession No  3  category  5  descriptor  (D) 7 year
                  2  author       4  date      6  title
 => Enter option number =>
Using default field:   descriptor
```

You can include statistical data in the file. **Counts** give the number of occurrences of the individual terms from the second field. **Totals** gives the sum of all the individual terms associated with each term in the primary field

This example will include all statistical data, so just enter <RETURN> for the default.

```
USE STATISTICAL DATA?  1 Counts & Totals (D)   2  Counts Only    3  None
=> Enter option number  =>
Using counts+totals.
```

If you do not want to save results in a file, just enter <RETURN> for the default and you will see the cross correlation results on your screen only.

If you want to save the results in a file, enter *2* for file only or *3* for both screen display and file.

Enter a name for the new file containing the cross correlation results. In this example, **'gateall.crs'** suggests that this is the cross-correlation of authors and descriptors for the file **'gateall.uniq'.**

```
HANDLE RESULTS?:       1  Display (D)    2  Save in file      3   Both
=> Enter option number.=>      2
=> Enter file name (to hold results).
(A .crs extension will be added.) => gateall
```

If you did not choose to see the results displayed on your screen, you will just see a message when the process is complete.

```
    ..Working   Please wai:   (To interrupt: Control-C)
    Option completed.
Enter <RETURN>  to continue
```

RESULTS OF CROSS CORRELATION

The cross-correlation process creates a file with two columns. The left column is an alphabetical list of every unique entry from the primary field. The right column is an alphabetical list of all the associated unique entries from the second field, with a count of how many times that association occurs.

All terms are standardized into upper case and extra spaces are ignored, so the only variations that appear as separate entries are when the text itself is different. For example, some databases use complete first names for authors, while others use initials only. Since the list is sorted alphabetically, these variations will at least be adjacent to each other.

The following example shows part of the results of the author/descriptor cross correlation for the file 'gateall.uniq'.

```
Tue Apr  4 10:45:30 EDT 1993
Using CROSS
Option(s):  author descriptor; counts+totals
Input file:  gateall.uniq
Output file:  gateall.crs
 COTTER G A
 1    ACCESS TO INFORMATION
 2    ARTIFICIAL INTELLIGENCE
 1    INFORMATION NETWORKS
 2    INFORMATION RETRIEVAL
 7    INFORMATION SYSTEMS
 1    INFORMATION-PROCESSING
 6    USER NEEDS
 1    USER NEEDS (INFORMATION)

38    TOTAL
```

You can see which authors are associated with each other by doing an author/author cross-correlation. The following example shows part of the results of this process.

```
 Tue Apr  4 10:39:44 EDT 1993
 Using CROSS
Option(s): author= author; counts+totals
Input file: gateall.uniq
Output file: gateall.crs
 HARTT R W
4    COTTER G A
1    HAMILTON W P III
9*   HARTT R W
8    OCONNOR D J
--
22   TOTAL
```

You can also see the total number of times each author appears by looking at the number next to the term with the asterisk (*).

```
                    BIBLIOGRAPHIC PROCESSING
```

There are several options that will help you prepare bibliographies that are tailored to your specific needs. You can discard non-relevant citations, sort citations, create an index and produce a bibliography with a variety of formats.

Enter **prepare** or *5* from the Bibliographic Processing menu to get to the Bibliographic Preparation menu.

```
  1    reformat     Reformat citations into DGIS standard format.
  2    merge        Merge reformatted files into a single file.
  3    duplicate    Eliminate duplicate citations.
  4    analysis     Go to citation analysis menu.
* 5    prepare      Go to bibliographic preparation menu.
  6    news         What's new on bibliographic processing.
  7    automatic    Reformat, duplicate-elimination, sort, and final.
Enter a menu number, a command, "b" to backup, "t" for top, or  "e" to
end:
* 5


                    BIBLIOGRAPHIC PREPARATION
This menu will assist you in reviewing and preparing a final  tailored
bibliography suited to your needs.  This phase of  processing should be
done on the file you consider to be your  current working file.
* 1    review       Review citations for relevance selection.
  2    sort         Sort citations by specified, selected  parameters.
  3    index        Create a detailed index by selected parameters.
  4    final        Prepare the final bibliography as formatted by you.
Enter a menu number, a command, "b" to backup, "t" for top, or  "e" to
end:
*
```

REVIEW FOR RELEVANCE

PURPOSE OF REVIEWING FOR RELEVANCE

The **review** process lets you examine each citation in a file to decide whether to keep or discard it. You also have the option to add additional fields to citations you keep. These include notes, relevance tags, and your own keywords.

Since this process involves viewing every citation, reviewing a very large file may take a long time.

Enter the name of the file you want to review. In this example, the DGIS reformatted file of citations from **DIALOG NTIS, 'gatentisd.ref'**, will be reviewed. Since this is the default file just enter *<RETURN>* to use it.

STEPS IN REVIEWING FOR RELEVANCE

To begin the process, enter *review* or *1* from the Bibliographic Preparation menu. You will see the following at the top of your screen.

```
                                          + - - -  At Any  Prompt  - - - +
**************                              Enter <CR>  for  default (D)
REVIEW                                      Enter  'h <CR>' for  help
**************                              Enter  'q <CR>' to  quit

Use only with a REFORMATTED file.
FILE TO PROCESS?:        Last File Used (D):  gatentisd.ref
** Enter file name  =>
Using the file:  gatentisd.ref
```

Each citation will be displayed on your screen one at a time. You can choose how much information about each citation you want to see. Displaying more information will make it easier to determine the relevance, while displaying less information will take less time.

If you have a large file and only want to review part of it during your current review session, choose option 2, which includes accession number. Then you can continue the review of your file at another time, starting at the place that you left off.

In this example, the **title, author, year,** and **accession number** of each citation will be displayed.

```
Please choose the format in which you would like to see the citations displayed.
1. title year author accno
2. title year author abstract accno
3. title year author descriptor accno
 Please enter choice number =>    2
You can begin your review anywhere in the file.  The usual place to
begin is at the first citation.  Just enter <RETURN> to start at the
beginning.


 WHERE TO START?:
Default:   1st citation
** Enter citation's ACCESSION NO. =>
```

However, you can also begin at any citation specified by its accession number. If you interrupt your review process with <CTRL>C and note the accession number for the citation currently displayed but not yet processed, you can begin a new review session with that citation. Enter the accession number in the form *dialog 123456. NOTE: This is the accession number, not the place of the citation in the file.*

Enter a name for the new file which will contain only the citation you specified to keep. In this example, **'gatentisd'** suggests that this file is the reviewed version of **'gatentisd.ref'**.

```
 RESULTS MUST BE SAVED (A .rev extension will be added.)
(you may enter a previously reviewed file name for appending but exclude
the .rev extension.)
==Enter file name =>   gatentisd
..Working   Please wait   (To interrupt: Control-C)
```

The citations will be displayed on the screen one at a time.

This is the title, date, author and accession number for the first citation. In this example it is not considered relevant. Enter *n* to discard it.

```
NBS (National Bureau of Standards) Directory Services Phase 1          1988
Implementation
   Colella  R ; Gebase  L
   DIALOG  1344111
===Keep citation? (y or n):    n
Discarded.
```

The Next Citation is Displayed.

If the citation is relevant and you want to keep it, enter *y*. You then have the option to add four additional fields to that particular citation. The local options "subject", "relevancy", "comment", and "order" will appear one at a time. Each of these is added as a new field label, with your response (up to 70 characters) as the text.

You can assign any codes or terms you choose, or leave the field empty. "Subject" might be your own descriptors, "relevancy" a value on some scale, "comment" annotations you would like to add, and "order" a reminder to yourself to obtain a hard copy of the document. This does not place an order for the document.

After all the citations are displayed, you will see a message that the process is complete.

```
Interactive Access to Scientific and Technological Factual             1967
Databases Worldwide
          Hampel  V  E ; Grubb  D  P ; Moulik  A
          DIALOG  1367272
Keep citation? (y or n):    y
Local options? (y or n):    y
Subject:     general
Relevancy:   6
Comment:     background material
Order text (y/n):  n
Saved.
```

If you want to interrupt the review process at any time, enter <CTRL>C, and the citations you already indicated that you wanted to keep will be saved in the specified file. You can resume reviewing the file at that point by noting the accession number displayed when you interrupted the process.

RESULTS OF REVIEW FOR RELEVANCE

The new file contains all the citations you indicated that you wanted to keep during the review process. If you chose local options for any of them, they will now have four additional field tags; <subject>, <relevancy>, <comment>, and <order> text.

The following example is part of a citation from the file **'gatentisd.rev'** and illustrates the local options added.

If you look at the contents of one of these files, you will notice that the order of the fields within each citation is not the same as in other DGIS standard format files. This does not affect further processing. You will also note that these are the only files created during post-processing that do not have a header.

```
<ACCESSION NO.>    DIALOG  1367272
<AUTHORS>      Hampel  V  E ; Grubb  D  F ; Moulik  A
<DATE>         1987
<DATABASE SOURCE>      DIALOG ntis
<TITLE>      Interactive Access to Scientific and Technological Factual
Databases  Worldwide
<subject>     general
<relevancy>   6
<comment>     background material
<order text> n
.
```

Notice that the new field labels added during review are in lower case, while the field labels added during the reformat process are in upper case.

SORTING CITATIONS

PURPOSE OF SORTING CITATIONS

You can sort the citations in a file based on information in a variety of fields; including author, date, title, and the subject terms added during the review process. Multi-level sorts up to four levels are possible, and you can specify whether each field is sorted ascending or descending.

STEPS IN SORTING CITATIONS

To begin the sort process, enter sort or 2 from the Bibliographic Preparation menu. You will see the following at the top of your screen.

Enter the name of the file you want sorted. In this example, the file with the duplicates deleted, **'gateall.uniq'** will be used.

```
                                          + - - -  At Any  Prompt  - - - +
==========                                  Enter <CR>  for  default (D)
SORT                                        Enter  'h <CR>' for  help
==========                                  Enter  'q <CR>' to  quit

Use only with a REFORMATTED file.

FILE TO PROCESS?:        Last File Used (D):  gatentisd.rev
=> Enter file name, or 'l' to list files =>   gateall.uniq
Using the file:  gateall.uniq
```

You can select up to four fields to sort on. At each prompt, enter the number corresponding to the field you select. When you are finished, enter *d* for done. The sort will be performed in the order which the fields were entered.

In this example, the citations will first be sorted by date. Then within each date, the citations will be sorted by the author field. The citations for each author will then be sorted by title.

```
FIELDS?: 1 Accession No      3  category        5  subject     7  year (D)
         2 author (D)        4  country         6  title (D)
FIELD #1  (of up to 4)?:  == Enter option number or 's'pecial =>   7
FIELD #2  (of up to 4)?:  == Enter option number or 's'pecial =>   2
FIELD #3  (of up to 4)?:  == Enter option number or 's'pecial =>   6
FIELD #4  (of up to 4)?:  == Enter option number or 's'pecial =>   d
Sorting citations by:  year author title
```

Option 5, subject, is a field you can add to individual citations during the review process discussed in the previous section. If you want to use this field for sorting, you should use the stat process to check that all the citations in your file contain this field.

Each of the four possible fields specified can be sorted in either ascending (lowest to highest) or descending (highest to lowest) order.

In this example, entering *3* indicates that the first field, **year**, will be sorted in descending order, with the most recent dates appearing first. The second and third fields, **author** and **title**, will be sorted in ascending alphabetical order.

```
SORT ORDER?:  1  A A A A  (D)   2  A D A A   3  D A A A     4  D D A A
(A=Ascending; D=Descending): == Enter option number =>   3
```

Enter a name for the new file with the citations arranged according to the sort performed. Following the suggested convention for sorted files, the new file will be **'gateall.sort'.**

When the **sort** process is complete, you will see a message with the name of the new file.

```
RESULTS MUST BE SAVED (A .sort extension will be added).
== Enter file name =>  gateall

 ..Working   Please wait   (To interrupt: Control-C)
    Results saved in file gateall.sort.
    Option completed.
Enter <RETURN> to continue
```

RESULTS OF SORTING CITATIONS

During the sort process, a new file is created with the DGIS standard format citations from your input file rearranged according to the values in the sort fields.

The following example shows the header and part of the first record in the file **'gateall.sort'**.

```
Wed Apr  5 14:51:44 EDT 1993
Using SORT
Option(s):  year author title
Input file:  gateall.uniq
Output file:  gateall.sort
<ACCESSION NO.>  BRS AD-A193-496-7.  8810.
<CITATION NUMBER>      0001
<DATABASE SOURCE>      BRS ntis
<REFORMAT DATE>        Mon Apr  3 16:32:31 EDT 1993 (607636751)
<DOWNLOAD DATE>        Mon Apr  3 16:25:58 EDT 1993 (607636358)
<DOWNLOAD FILE NAME>   gatentisb
<AUTHORS>      BURTON H D;
<DATE>     1988
```

PREPARING INDEXES

PURPOSE OF AN INDEX

An index is a second file which serves as a pointer to the citations in the first file. The index can be based on a variety of fields, including author, descriptor, and date. The index is sorted by all the individual terms in the specified field, so an author index has a separate index term for each author listed in the author field.

Since there is information about a citation for each term, index files can be very large. Your index will be more useful if you include only part of each citation in the index, with the full citations in a separate sorted file.

Steps in Preparing an Index

To begin the process of creating an index to a file of citations, enter **index** or *3* from the Bibliographic Preparation menu. You will see the following at the top of your screen.

Enter the name of the file for which you want to create an index. In this example, the file with the duplicates deleted, '**gateall.uniq**' will be used. Since this is the default file, just enter <RETURN> to use it.

```
                                          + - - -  At Any  Prompt  - - - +
==============                              Enter <CR> for default (D)
INDEX                                       Enter 'h <CR>' for help
==============                              Enter 'q <CR>' to quit

Use only with a REFORMATTED file.
FILE TO PROCESS?:      Last File Used (D):  gateall.uniq
=> Enter file name, or 'l' to list files =>
Using the file:  gateall.uniq
```

Enter the number corresponding to the field you want to be the basis of the index: author, category, country, descriptor, date. In this example, just enter <RETURN> for the default of author.

```
 FIELD?:   1  author (D)   2  category   3  corporate author 4  country
           5  descriptor   6  year
Using default field:   author
```

You can include the full citation associated with each index term, or a partial record consisting of the author, title, date and accession number. Just enter <RETURN> for the partial display of citations.

```
DISPLAY FULL CITATION FOR EACH INDEX TERM?    1 No (D)    2 Yes
 => Enter option number  =>
```

NOT USING FULL CITATION.

If you do not want to save the results in a file, just enter <RETURN> for the default and you will see the index on your screen only.

If you want to save the results in a file, enter *2* for the file only or *3* for screen display and file.

Enter a name for the new file containing the index.

```
 HANDLE RESULTS?:       1  Display (D)      2  Save in file       3  Both
     => Enter option number => 2
     => Enter file name (to hold results)
(A .indx extension will be added.)    =>   gateall
```

If you did not choose to see the results displayed on your screen, you will just see a message when the index process is complete.

```
  ..Working   Please wait   (To interrupt: Control-C)
   Results saved in file gateall.indx.
   Option completed.
Enter <RETURN>  to continue
```

RESULTS OF PREPARING AN INDEX

The index is a formatted file with the index terms from the selected field sorted in ascending order, and either the partial or full citation shown for each term.

The following example shows part of the author index to the file 'gateall.uniq'.

```
Wed Apr  5 15:00:32 EDT 1993
Using INDEX
Option(s):  author
Input file:  gateall.uniq
Output file:  gateall.indx
BURTON H D
  1986   BURTON H D;          RESOURCE SHARING THROUGH     BRS
         COTTER  G A;         INTEGRATION OF AN            AD-A165-050-6-XAB.
         HARTT R W;           INTELLIGENT GATEWAY AND      8607.
                              LIBRARY SUPPORT SOFTWARE.
COTTER G A
  1985   COTTER G A;          INTEGRATED BIBLIOGRAPHIC     BRS
         HARTT R W;           INFORMATION SYSTEM           AD-A157-700-6-XAB.
                              INTEGRATING RESOURCES BY     8512.
                              INTEGRATING INFORMATION
                              TECHNOLOGIES.
```

Multiple citations for the same index term are automatically sorted by year, author, and title.

FORMATTING FINAL BIBLIOGRAPHIES

PURPOSE OF FORMATTED BIBLIOGRAPHIES

Once you have completed your other post-processing activities, you will want your citations in an attractive format, without the field labels and extra information added during the reformat process.

You can choose the fields to include and the format for those fields. Examples of citations formatted in different ways are included in the Appendix I, Sample Bibliography Formats.

Steps in Formatting a Bibliography

To begin the process of creating a final, formatted bibliography, enter **final** or *4* from the Bibliographic Preparation menu. You will see the following at the top of your screen.

Enter the name of the file you want in a final format. In this example, the sorted file **'gateall.sort'** will be used

```
                                        + - - -  At Any Prompt   - - - +
==========                                 Enter <CR>  for  default (D)
FINAL                                      Enter  'h <CR>' for  help
==========                                 Enter  'q <CR>' to  quit

Use only with a REFORMATTED file.
FILE TO PROCESS?:     Last File Used (D):  gateall.uniq
== Enter file name, or 'l'  to list files =>    gateall.sort
Using the file:  gateall.sort
```

You can choose the fields to include in your bibliography. If you want to use one of the five pre-selected fields sets, enter the number corresponding to your choice.

In this example, enter *2* for **Standard II** which includes **author, year, title, database source** and **accession number.**

```
 FIELDS SELECTION?:
1 Standard I (D) [title, accno, year, author, pubdesc, abstract, dbsource]
2 Standard II    [author, year, title, dbsource, accno]
3 Standard III   [accno, year, author, title, dbsource]
4 Block I        [author, title, corpauth, year, pubdesc]
5 Block II       [author, title, pubdesc, year]
6 Selected (Regular)
7 Selected (Special)

== Enter option number =>  2
Do you want the citations numbered?  [y/n] (default: y) => y
FORMAT?:  1. Standard (D)  2 Wrap (not 1st)  3 Wrap (all)  4  Block
Enter option number => 1
```

The options 6 and 7 allow you to specify your own set of fields.

Option 6 lets you define your own combination of any of the fields included in the five standard sets.

```
** Enter option number =>  6
Your previous selections were :
author  title  abstract
Do you want to use them? [y/n]  (default: y)
Do you want the citations numbered? [y/n]  (default: y)
```

Option 7 lets you select any field and is used for including fields other than the common ones. If you want to include any of the additional fields added during review, such as "subject" or "comment", use this option. You will receive a prompt asking if you want to use your previously selected set of special fields.

```
** Enter option number =>     7
Enter 'l' for a list of valid label names for all databases
** Enter EXACT LABEL (#1 of up to 12) -> l
Below are valid labels for all currently processed databases. For all
labels, the '<' and '>' characters are optional when entering a label,
but do not use one without the other.
<ABSTRACT>          <DATABASE SOURCE>          <SECONDARY DESCRIPTORS>
<ACCESSION NO.>     <DATE>                     <TITLE>
<AUTHORS>           <DESCRIPTORS>              <TITLE(MONO)>
<CATEGORIES>        <EDITOR OR COMP>           <TITLE(SERIAL)>
<CORPORATE AUTH>    <IDENTIFIERS>              <YEAR>
<COUNTRY>           <PUB DESC>
```

Example: PUB DESC <CR> (Selects publication description field.)

Enter 'l' for a list of valid label names for all databases

```
** Enter EXACT LABEL  (#1 of up to 12) => <DESCRIPTORS>
** Enter EXACT LABEL  (#2 of up to 12) or 'd'one =>  <AUTHORS>
** Enter EXACT LABEL  (#3 of up to 12) or 'd'one =>  <TITLE>
** Enter EXACT LABEL  (#4 of up to 12) or 'd'one =>  <DATE>
** Enter EXACT LABEL  (#5 of up to 12) or 'd'one =>  <ABSTRACT>
** Enter EXACT LABEL  (#6 of up to 12) or 'd'one =>  <COUNTRY>
** Enter EXACT LABEL  (#7 of up to 12) or 'd'one =>  <PUB DESC>
** Enter EXACT LABEL  (#8 of up to 12) or 'd'one =>  d
```

Enter the DGIS field label exactly as it appears in the DGIS standard format citations. Notice that regular field labels are uppercase, while the ones added during review are lower case. The fields will appear in the formatted citations in the same order as chosen. The second field should be a short one such as **ACCESSION NO.**, **CITATION NUMBER**, or **DATE**.

Use the **stat** process to determine the exact field label and whether all the records contain the field.

You can choose how you want the fields formatted on the page. Examples of the different formats are included in Appendix I, Sample Bibliography Format. Enter the number corresponding to your choice of format. In this example, just enter <RETURN> for the default.

```
FORMAT?:   1 Standard (D)   2  Wrap (not 1st)   3  Wrap (all)   4   Block
== Enter option number =>
Using default: 1
```

If you do not want to save the results in a file, just enter <RETURN> for the default and you will see the formatted bibliography on your screen only. This is a useful option for previewing your format.

If you want to save the results in a file, enter *2* for file only or *3* for screen display and file.

Enter a name for the new file containing the formatted bibliography. In this example, **'gateall.fin'** suggests this is the final formatted bibliography for the file **'gateall'**.

```
HANDLE RESULTS?:    1  Display (D)      2  Save in file      3   Both
== Enter option number => 2
== Enter file name (to hold results).
(A .fin extension will be added.) => gateall
```

If you did not choose to see the results displayed on your screen, you will just see a message when the process is complete.

```
   ... Working.  Please wait.  (To interrupt: Control-C)
   Results saved in file gateall.fin.
   Option completed.
Enter <RETURN> to continue:
```

RESULTS OF FORMATTING A BIBLIOGRAPHY

The appearance of your final formatted bibliography will depend on both the fields and format you selected. See the Appendix I, Sample Processed Files for examples of the fields and formats available.

The following example shows a citation from **'gateall.fin'**

```
Fri Apr  7 13:15:52 EDT 1993
Using FINAL.
 Option(s): StII: author, year, title, dbsource, accno;
Input file: gateall.sort
Output file: gateall.fin
 Cotter G A                                                    1987
 Scientific and Technical Information Network (STINET).  Foundation for
 Evolution
     DIALOG ntis
     DIALOG  1315598
```

POST-PROCESSING NEWS

To see updated information about post-processing, enter **news** or *6* from the Bibliographic Processing menu. For instance, you will see a list of the **DIALOG** databases which offer format 5, the format required for post-processing **DIALOG** citations. Check the Blue Sheets on each database to determine full format with tags.

The following example shows the first screen of information displayed.

```
=======DGIS NEWS FILE==============================
FEBRUARY 1993
There are two ways to display Dialog records with tagged fields required
for post-processing:
1. Format 5 - full record with tags
2. Any format number or list of fields followed by 'tag'
Each database (file) is different, and the following two lists indicate
which files support the two different methods. The DGIS DIALOG reformat
works better with format 5 than with user-defined formats, because the
format
5 field tags are more consistent. Therefore, use format 5 whenever
possible.
Format 5, tagged output, is available in the following files:
        (i.e., TYPE S7/5/1-10)
```

AUTOMATIC PROCESSING

PURPOSE OF AUTOMATIC PROCESSING

You can prepare a sorted and formatted bibliography of citations from the same database without going through the individual steps described in the previous sections. The automatic option will start with your initial downloaded file and reformat it into DGIS standard format, eliminate duplicates, sort the citations by date, author, title and prepare a bibliography using the default fields and format. You will only be prompted for the input file name, vendor source, and output file name.

If you do not want to analyze your citations or choose the non-default values this features saves time and avoids accumulating all the intermediate files created in carrying out the steps one by one.

Steps in Automatic Processing

To begin the automatic process, enter **automatic** or *7* from the Bibliographic Processing menu. You will see the following at the top of your screen.

Enter the name of the files containing citations downloaded from one of the five vendor systems which post-processing supports. More than one file can be processed in the automatic feature.

In this example, a bibliography will be created for the initial files **'gatentisd'**, **'gatentisb'** and **'gatedrols'** which have not been processed through the reformat option. These are the same files used in the example of the reformat process.

```
                                        + - - - - At Any Prompt   - - - +
==============                             Enter <CR>  for  default (D)
AUTOMATIC                                  Enter  'h <CR>' for  help
==============                             Enter  'q <CR>' to  quit

Enter RAW DOWNLOADED file names or 'l' to list files
(separate file names with spaces). => gatentisd gatentisb  gatedrols
RESULTS MUST BE SAVED  (A .auto extension will be added)
Enter file name  =>    gateall
```

Enter the number which corresponds to the vendor system from which your citations were downloaded. In this example the citations were from DIALOG.

```
SOURCE SERVICE?: 1  DTIC TR      3  NASA/RECON     5  DIALOG   7   STN
                 2  DTIC NUIS    4  BRS           6  ORBIT
** Enter option number  =>     5
Using DIALOG Reformat
```

If you are reformatting citations from one of the commercial vendor systems which offer many different bibliographic databases, you will also be prompted for the name of the specific database. You can enter the text in whatever form you want. In this example the citations were in NTIS.

```
DATABASE SOURCE? (name or number)   => ntis
Using ntis
```

Enter a name for the new file which will contain the sorted and formatted bibliography.

```
RESULTS MUST BE SAVED (A .auto extension will be added).
** Enter file name => gateall
```

You will see progress messages as each process is carried out: reformat, duplicate elimination, sort and formatting. The number of duplicates removed and all the default values used are also displayed.

```
      .. Working   Please wait   (To interrupt: Control-C)
36 total citations processed
Deleting Duplicates   based on title-year   shorter citation
1 citation removed.
Sorting based on year-author-title order: Descending  Ascending Ascending
Analyzing   using standard fields and format
Saving results ..... using standard fields and format

Results saved in file gateall.auto.
Option completed.
Enter  <RETURN>  to continue
```

RESULTS OF AUTOMATIC PROCESSING

A file created with the automatic option is similar to one created with the final option, except that the fields and format are always the default values. The following example is a citation from 'gateall.auto'.

```
Fri Apr  7 13:18:41 EDT 1993
Using AUTOMATIC
Option(s): Automatic
Input file: gatentisd gatentisb gatedrols
Output file: gateall.auto
Scientific and Technical Information Network (STINET).    DIALOG
Foundation  for Evolution                                 1315598
      1987
      Cotter  G  A
      AD-A189 750/3/XAB   Technical rept.   33p
         This paper describes advances which are being made in
      information retrieval systems to assist end-users and
      user-friendly interfaces -- to overcome user barriers are described.
      DIALOG NTIS
```

CHAPTER 9 - VISUAL EDITOR

Vi (vee-eye) is the **UNIX** visual or screen editor. The material in this chapter was adapted from the "Technology Information Systems (TIS) Tutorial" (Draft: January 1986) prepared by Gary Engel and Carol Foret of the Lawrence Livermore National Laboratory and copyrighted by The Regents of the University of California, Berkeley, California. Vi offers many of the features of word processors. You can move the cursor to any point on the screen to insert, delete, or move text. It can be used to modify downloaded information, edit mail messages, or create new files.

OVERVIEW

Vi is a powerful editor and there are certain facts that you must understand about Vi before you begin to use this editor.

VI WINDOW

Using Vi to view a file is like viewing a scroll. The screen acts as a "window" into the file. You view only a portion at a time, and that portion is not fixed like the pages of a book, but flexible. You can view any portion of the continuous flow of text.

LINE EDITORS

Vi is a screen-oriented text editor that permits faster, easier editing than the earlier UNIX line editors, but the Vi colon (:) commands make use of one of them: Ex. Earlier UNIX text editors are ed, edit, and Ex, which were designed for editing files on line terminals that had no screens. These editors are also available to you. Vi is in many ways simply a screen-oriented extension of Ex. Whenever you issue a colon command from Vi, you are using Ex.

VI MODES

Vi has three states: **command** mode, **insert** mode, and **last line** mode. Upon opening a file, **Vi** begins in command mode where typed characters are treated as **Vi** commands, not as text. Most **Vi** commands do **NOT** appear on the screen when typed and most do **NOT** require a carriage return.

Vi commands that are exceptions to the above rules start last line mode. These commands begin with a colon (:), slash (/), or question mark (?). Typing any one of these characters in command mode causes the character to appear in the last line of your screen where you can enter the rest of the command. This portion also appears on your screen, and the command requires a <RETURN> to end it and cause the action to happen. Upon completion of the action, command mode is re-entered automatically. Messages resulting from any **Vi** command also appear in the last line. **Note:** If you get stuck or get odd results in **VI**, hit <ESC> to make sure that you are in **Command** mode. The computer will beep if you are already in **command** mode. Also check to be sure that the **CAPS LOCK** key isn't down.

Available from command mode are certain commands that open insert mode. Insert mode treats typed characters as text, not as commands; and thus, allows you to enter the contents of your file: its words and sentences. Pressing the <ESC> key ends insert mode and restarts command mode.

If you enter a **Vi** command while in **insert** mode, it is treated as text. Otherwise, most terminals beep or flash to indicate an invalid command.

TEMPORARY FILE

Vi uses a temporary file for edits to protect the original which is updated with the changes only when you save them. When you call up an existing file for editing, Vi creates a temporary copy for you to make changes in. The temporary file becomes the permanent file only when you save the changes.

TERMINAL IDENTIFIERS

Vi requires that the computer have the correct terminal type stored for your terminal. Because it is screen-oriented, Vi performs as expected only if the computer knows exactly how to interpret commands from your terminal. The computer should have this information if you supplied the correct terminal code at log-on. If you are editing a file with Vi, and its commands have unexpected results, exit the file without saving the changes by typing *:q!*. Usually, an incorrect terminal type is the problem. You will learn how to correct this in this chapter. Ex can be used even without the correct terminal type.

COMMANDS

This chapter introduces only the most commonly used of the many possible Vi commands. It is the first step in making these commands so second nature to you that you'll soon be using them easily and automatically.

CONVENTIONS

After you have entered any of these commands, typed characters are treated as text and appear on the screen as such until you press the <ESC> key to return to command mode. In the example, commands shown in brackets do not appear on your screen.

BACKSPACE

Use the <BACKSPACE> key to correct mistakes as you make them. However, it corrects mistakes only on the current line, not on any previous lines.

CREATING OR CALLING UP A FILE FOR EDITING

Use Vi either to create a file initially, or to call up an existing one for viewing and editing. If you are creating a file, keep the file naming conventions in mind, see Chapter 3, File Operations. Otherwise, you might end up with an invalid file name. Generally, a filename should suggest the contents of the file. Use Vi to create a new file named 'example' as shown. In order to edit a file, select *edit* from the File Operations menu, then select *vi* as your editor.

```
* vi
```

EDIT FILE

This option assumes knowledge of the 'Vi' (visual) editor. To leave the Vi editor, enter *ZZ*.

```
Name of file to edit or "quit":
* example
```

As Vi creates the file and opens it, the command line disappears and is replaced by a blank screen that looks something like the following:

The cursor positions itself at the top of the file. The repeating tilde characters (~) indicate empty, available, unused lines.

An existing file would be called up the same way, only instead of entering a new and unique filename, you would enter the exact name of an existing file. The first lines of that file would then appear on your screen with the cursor positioned at the beginning of the first line.

ENTERING NEW TEXT

When you first enter a file using Vi, characters typed are not treated as text but as commands. Thus, they do not appear on the screen when typed. This starting state is called command mode. To enter text, change to insert mode by using one of the following commands:

Text Entering Commands

Command	*Result*	*To End It*
a	Adds text to the **RIGHT** of the cursor (appends)	Press <ESC>
i	Adds text to the **LEFT** of the cursor (inserts)	Press <ESC>
o	Opens a new line **BELOW** the current line to add text	Press <ESC>
O	Opens a new line **ABOVE** the current line to add text	Press <ESC>

Table 7

ENTERING TEXT IN A NEW FILE

If you do not already have text in a file, use the **a** command. Enter **a** followed by the text that you want to enter. Enter a <RETURN> at the end of each line. An example of entering text in a new file follows:

```
[a] How much wood would a woodchuck chuck?    <RETURN>
Peter Piper picked a peck of pickled peppers. <ESC>
```

ADD NEW LINES ABOVE

The **O** command can be used to add a new line above the current one. Until you press the <ESC> key, you can insert as much text or as many new lines above the original one as you like. The cursor can be positioned at any point on the line when you enter **O**. This is a capital "**O**". In the following example, **O** is entered and the new line is typed. Enter an *<ESC>* after you finish entering the new line to return to command mode.

```
How much wood would a woodchuck chuck?
She sells sea shells at the sea shore.  <ESC>
Peter Piper picked a peck of pickled peppers.     [O]   <- Do this first!
```

Press the <ESC> key again to make certain you are in command mode. This does no harm and is a good habit to develop since it ensures you have returned to command mode before issuing a command. If you hear a beep, it is just Vi telling you that you have already returned to command mode and are ready to issue a Vi command.

INSERT TEXT TO LEFT

To add text to the **LEFT** of the cursor, enter *i*, followed by the text that you want to insert. In the example below, the word "Poor" is inserted at the beginning of the line. The cursor was under the **P** in Peter when the procedure started. Be sure to enter an <ESC> after you finish inserting to go back to command mode.

```
[i] Poor <ESC>    Peter Piper picked a peck of pickled peppers.
```

INSERT TEXT TO RIGHT

To add text to the **RIGHT** of the cursor, enter *a* followed by the text that you want to insert. In the example below, the word "pale" is inserted after "Poor" and before "Peter". Enter <ESC> to end text entry and return to command mode.

```
Poor [a] pale <ESC>    Peter Piper picked a peck of pickled peppers.
```

Entering *i* inserts text to the **LEFT** of the cursor and entering a adds text to the right of the cursor.

ADD NEW LINES BELOW

The lower case "o" is used to add text below the current line, as opposed to the upper case "O" which adds text above the current line. Enter the lower case *o*, the new blank line will appear, and you can insert your text. Be sure to enter an <ESC> when you finish adding text to return to command mode.

```
Poor pale [o] Peter Piper picked a peck of pickled peppers.
Twenty-two times Toby's toy boats tossed and turned.  <ESC>
```

COPYING TEXT AND READING IN A FILE

Another way to add or insert text is to copy existing text. This text can be in the current file (the one you are creating or editing), or in another file. The following table summarizes the applicable commands:

Text Copying Commands

Command	*Use*
#yy	Yanks # number of lines (starting with the current line), and places them in a temporary storage area called a buffer. Replace # with the number of lines to yank.
p	Puts a copy of the buffer contents **BELOW** the current line.
P	Puts a copy of the buffer contents **ABOVE** the current line.
:#,#co#	Places a copy of the lines from line number to line number # in the buffer, and places them after line number #. Replace each # with an actual line number, and end the command with a <RETURN>.
:r filename	Places a copy of the contents of the specified file after the current line. Replace filename with an actual file name, and end the command with a <RETURN>.

Table 8

COPYING TEXT

These commands can be issued from any position on a line. Using yy without a number yanks the current line only. When you use yy, nothing appears to change, but the line is copied into the buffer, and is ready to be copied elsewhere.

PLACE COPIED LINES BELOW

The copy is placed below the current line using the lower case "p", making two copies of the same line. The cursor moves to the inserted line.

```
Twenty-two times Toby's toy boats tossed and turned.  [yy] [p]
Twenty-two times Toby's toy boats tossed and turned.
```

The yanked text remains in the buffer until new text is yanked.

PLACE COPIED LINES ABOVE

In the example below, the upper case "P" is used to place a copy of the yanked line above the current line.

```
Twenty-two times Toby's toy boats tossed and turned.
Twenty-two times Toby's toy boats tossed and turned.
[P] Twenty-two times Toby's toy boats tossed and turned.
```

The buffer's contents can be copied repeatedly at any location in the file using p or P until the contents are replaced by another command that overwrites the buffer's contents. That command could be another yank to the buffer, or one of the other commands that affect the buffer, such as any deletion command. Generally, you should "put" the buffer's contents wherever you want them very soon after placing them in the buffer; otherwise, you may accidentally overwrite them.

You can yank multiple lines of text, by specifying the number of lines to include. If you enter *2yy* as shown in the example below, you are yanking the current line and the one below.

```
Twenty-two times Toby's toy boats tossed and turned.
[2yy] [p] Twenty-two times Toby's toy boats tossed and turned.
Twenty-two times Toby's toy boats tossed and turned.
Twenty-two times Toby's toy boats tossed and turned.
```

In this last example, even though you yanked the original last two lines, you separated them when you put the copied lines from the buffer after the first line.

EX COPY COMMANDS

Another way to copy text is to use Ex (or colon) commands. To enter a colon command, type a colon (:) anywhere on the current line. This causes a colon prompt to appear at the bottom left of your screen, where you can enter the rest of the command, ending it with a <RETURN>.

COPY COMMAND

To copy all the lines from line 1 to line 8, inclusive, and place them after line 8, enter an <ESC> to make sure you are in command mode. Then enter the following:

```
: 1,8co8 <RETURN>
```

The colon indicates that you want to use an Ex procedure. The *1,8* indicates the range of lines to be copied. The *co* indicates that the lines are to be copied, and the last *8* indicates that the new lines should be placed after line 8.

Even though only the last eleven lines appear on the screen after you issue the above command, the file now contains sixteen lines instead of eight. A message in the last line of the screen tells how many lines were added.

SPECIAL CHARACTERS

The following special characters can be used in place of a line number:

. indicates the current line of the file

$ indicates the last line of the file

The following commands use these special characters:

```
: 1,$co.
: 12,.co$
```

The first command causes the lines from line 1 to the last line to be copied into the buffer and places them after the current line. The second command causes the lines from line 12 to the current line to be copied and places them at the end of the file.

COPY OTHER FILES

Copying in the contents of another file is a very similar process. Enter *r* followed by the file name. The file's contents are placed immediately below the current line. In the example below the file named 'processed' is copied and placed below the current line.

```
: r processed
```

DISPLAYING FILE LINE NUMBERS

Certain Vi commands require line number information. This is especially true of the colon commands that are Ex commands used from Vi. Line number information does not usually automatically display in a Vi file, but can be called up when needed. The following table lists these commands:

Commands for Displaying Line Numbers

Command	*Use*
<CTRL>G	Temporarily displays the line number of the current line only
:set nu	Sets all line numbers to show; end the command with <RETURN>
:set nonu	Sets all line numbers **NOT** to show; end the command with a <RETURN> (Undoes a *:set nu*)

Table 9

DISPLAY CURRENT LINE NUMBER

The command **<CTRL>G** temporarily displays the line number of the current line. The line information displays at the bottom left of your screen and appears similar to the following example:

```
How much wood would a woodchuck chuck?
She sells sea shells at the sea shore.
Poor pale Peter Piper picked a peck of pickled peppers.
Twenty-two times Toby's toy boats tossed and turned.
Twenty-two times Toby's toy boats tossed and turned.
Twenty-two times Toby's toy boats tossed and turned.
Twenty-two times Toby's toy boats tossed and turned.
Twenty-two times Toby's toy boats tossed and turned.
<CTRL>G How much wood would a woodchuck chuck?
She sells sea shells at the sea shore.
      <Portions not shown>
"example" line 54 of 63 -85%-
```

<CTRL>G shows not only the line number of the current line, but also the total number of lines in the file and the percentage relationship between the two.

DISPLAY ALL LINE NUMBERS

To display the line numbers for all lines in the file, use the ***set*** command of the Ex editor with its ***number*** option. Number can be abbreviated to nu. Issue the command, ending it with a <RETURN> as follows:

```
:set nu
```

This causes the line number for each line to display on the left side of your screen - available for you to reference. but otherwise ignored by Vi.

END LINE NUMBER DISPLAY

To display the file without line numbers again, type the abbreviated form of **set nonumber** shown below:

```
:set nonu
```

Set commands issued from inside Vi remain in effect until reset or for the rest of the Vi session.

MOVING THE WINDOW

As mentioned earlier Vi makes your screen a "window" into your file. This permits you to view or change its contents. You view a file as you would view a scroll. The contents form a continuous, unbroken flow of information. This permits great freedom as to which portion you display in your "window" at any given time.

The following table lists screen or window movement commands:

Screen Movement Commands

Command	*Use*
# G	Moves the cursor to the specified line number. If the line is not on the screen, adjusts the screen. Replace # with an actual line number. Use G alone to move to the end of the file; 1G to move to the beginning and 30G to move line 30.
(CTRL>F	Moves the cursor forward one screen (21 lines) and adjusts the screen accordingly.
(CTRL>B	Moves the cursor backward one screen (21 lines) and adjusts the screen accordingly.
(CTRL>D	Moves the cursor down (forward) one half screen (12 lines) and adjusts the screen accordingly.
(CTRL>U	Moves the cursor up (backward) one half screen (12 lines) and adjusts the screen accordingly.
z<RETURN>	Shifts the portion of the file displayed so that the current line appears as the top line of the screen.

Table 10

See the "Moving the Cursor" and "Searches on Text" sections of this chapter for other ways of moving about in the file.

MOVING THE CURSOR

Moving the cursor allows you to view the file and position your cursor for making changes. The following table summarizes the most frequently used cursor movement commands. These commands work only in command mode; if used in insert mode, they are treated as text characters. If they appear as characters on your screen, press the <ESC> key to return to command mode.

Most of the following commands can have their action expanded by typing a number in front of them. For instance, 3j moves the cursor down three lines, 4b moves the cursor back four words. The following are exceptions: ^, **0,$, H, M, L.** These commands cannot be expanded by including a number .

Also, note that in Vi all punctuation characters are treated as separate words. This affects the commands where the unit of movement is a word.

Cursor Movement Commands

Command(s)	*Action*
←, *h*, *<BACKSPACE>*	Moves the cursor **LEFT** on the current line
↓, *j*, *<RETURN>*,+	Moves the cursor **DOWN** from the current line (<RETURN> and + moves the cursor down and to the beginning of the line)
↑, *k*, -	Moves the cursor **UP** from the current line (- moves the cursor up and to the beginning of the line)
→, -, *l*, *<SPACEBAR>*	Moves the cursor **RIGHT** on the current line
^	Moves the cursor to the beginning of the line
$	Moves the cursor to the end of the line
w	Moves the cursor forward one word
b	Moves the cursor backward one word
H	Moves the cursor to the top line of the screen (Think of this as "Home")
M	Moves the cursor to the middle of the screen
L	Moves the cursor to the last line of the screen

Table 11

DELETING TEXT

When viewing or editing a file, you'll see corrections you'll want to make. One type of correction is a deletion, which erases text. The following table summarizes the most common Vi deletion commands:

Deletion Commands

Command	*Use*
#x	Deletes # number of characters starting from the current character; replace # with an actual number; x alone deletes the current character
#dw	Deletes # number of words starting from the current word; replace # with an actual number; dw alone deletes the current word; dw mid-word deletes the rest of the word; punctuation is treated as a new word
#dd	Deletes # number of lines starting from the current line; replace # with an actual number; dd alone deletes the current line
: #,#d	Deletes lines from line number # to line number #; replace each # with an appropriate line number
D	Deletes from the cursor to the end of the line (delete rest of line)
J	Deletes spaces between lines (join two lines)
<Backspace>	Deletes character to left in input mode only.

Table 12

For example, to delete the word "sells" in the following line,

She sells sea shells at the sea shore.

position the cursor at the first "s" in "sells." You can either enter 5x to erase one character at a time or dw to delete the entire word. If you enter an upper case *D* when the cursor is placed at the first "s" in "shells", you will delete the rest of the line, including "shells."

CHANGING OR REPLACING TEXT

Another type of editing possible is to replace existing text with new text. Some of the commands that allow this are listed in the table below. The same activity is possible using a deletion command and a text adding command. Commands that do not set limits on the replacement text must be ended with the <ESC> key. The end of the text to be replaced is marked by the "$" character. See the section "Undoing Changes" for how to undo text replacements.

Text Replacing Commands

Command	*Use*	*To End It*
r	Replaces the current **CHARACTER** with the next character typed	*Automatic*
cw	Replaces the current **WORD** with whatever is typed; cw mid-word replaces the rest of the word; punctuation is treated as a separate word	*Press <ESC> to end*
cc	Replaces the current **LINE** with whatever is typed	*Press <ESC> to end*
C	Replaces **REST OF** the current **LINE** (from the cursor to the end) with whatever is typed	*Press <ESC> to end*

Table 13

To replace the word "shells" with "toys" in the following sentence:

She sells sea shells by the sea shore.

position the cursor at the first "s" in "shells" and enter cwtoys <ESC>. Be sure to enter the <ESC> to return to command mode.

To correct the word "scells" to read "shells," position the cursor at the "c" and enter rh.

MOVING TEXT

Text can be moved from one location in a file to another location. One way to move text is to delete it then "put" it elsewhere, since the deletion is stored in a buffer. A second method is to use the Ex command for moving lines. The following table shows the commands for moving text:

Text Moving Commands

Command	*Use*
:#,#m#	Moves all the lines from line number through line number # to after line number #. Replace each # with an actual line number.
Deletion,p/P	Delete a portion of text using the appropriate deletion command, then move to where you want to relocate it and use p or P to "put" it there.

Table 14

See the section "Undoing Changes" for how to restore moved text. For example, entering:

```
:2,34m72
```

will cause lines 2 through 34 to move to after line number 72.

WRITING TEXT TO ANOTHER FILE.

Copying text to another file is called "writing" to the file. To "write" text to another file, use the following form, where #'s are replaced by appropriate line numbers and **<FILENAME>** by a specific file name:

```
:#,#w <FILENAME>
```

For example, use the following command to write lines 23 through 32 to the file **testing**:

```
: 23,32w testing
```

The following message appears at the bottom of your screen:

```
"testing"      [New File] 10 lines, 505 characters
```

Be alert to the possible danger that if you write to a file that already exists you will write over its contents and erase them.

SEARCHES ON TEXT

Searches quickly locate text within a file by finding the next occurrence of its pattern, moving the cursor to it, and displaying that portion of the file on the screen. Thus, searches are helpful for locating text and also for moving quickly to particular locations in your file by locating a nearby unique pattern and then searching for it. The following table summarizes the applicable commands:

Text Searching Commands

Command	*Use*
/ pattern <RETURN>	Searches forward in the file for the first occurrence of the specified pattern; if the pattern is not found, it continues from the beginning of the file to the search starting point.
? pattern <RETURN>	Searches backwards in the file for the first occurrence of the specified pattern; if the pattern is not found, it continues from the end of the file to the search starting point.
n	Finds the next occurrence of the pattern in the current search direction.
N	Finds the next occurrence of the pattern in the opposite search direction

Typing " / " and " ? " as commands causes them to appear as prompts at the bottom left of your screen. If the file doesn't contain the pattern, the following message appears at the bottom of the screen:

Table 15

```
Pattern not found
```

When a pattern is found, the search can be circular and never-ending, if you keep pressing n or N . You need to be alert for repetitive searching because the programs do NOT tell you when occurrences of a pattern are being searched a second time.

GLOBAL SEARCHING AND REPLACING

To replace all occurrences of a pattern in a file with another pattern, use the following form:

```
: %s/ old / new /g
```

where "old" is the pattern you want changed and "new" is the pattern that replaces it. For example, to replace all occurrences of "sea shells" in the file to "souvenirs", use the following command line:

```
: %s/sea shells/souvenirs/g
```

A message at the bottom left of the screen notifies you how many substitutions were made. To verify that all occurrences are truly changed, use the following search command:

```
/sea shells
```

You should get the message:

```
Pattern not found
```

Global replacements can save you much work, but use them carefully. They can produce some unexpected results. For example, the following replacement will change all occurrences of "wood" to "bark," including wooden, woodchuck, or other words containing "wood." To avoid this, enter a space before and after the word "wood" and "bark."

```
: %s/ wood / bark /g
```

UNDOING CHANGES

To undo text deletions and replacements, use the following commands:

Commands for Undoing Changes

Command	*Use*
u	Undoes the last change made
U	Undoes all the changes made to the current line since moving to it

Table 16

A FEW ADDITIONAL USEFUL COMMANDS

The following table lists some miscellaneous commands that you might find useful:

Miscellaneous Commands

Command	*Use*
L	Redraws the screen: use this to refresh the screen if it becomes garbled due to a system message or incorrect terminal code.
xp	Transposes the current character and the next character.
ddp	Transposes the current line and the next line.
~	Changes the case of the current character: upper to lower or lower to upper.
:w	Saves all work done in the current Vi session and allows the session to continue; end the command with a <RETURN>

Table 17

EXITING VI

You can exit Vi saving the changes you made to the file, or exit without saving the changes:

Exiting Commands

Command	*Use*
:wq or ZZ	Exit Vi and save changes; end the command with a <RETURN>
:q!	Exit Vi and do not save changes; end the command with a <RETURN>.

Table 18

Typing :wq allows you to exit Vi and save all work done since the last save or exit. Alternatively, typing :q! allows you to exit Vi and not save any changes, which leaves the file as it was when you last saved changes.

CHAPTER 10 - EX EDITOR

This chapter describes the basic features of the Ex editor, from general editing concepts and basic commands to specialized commands. Ex is a line editor. It works on lines or groups of lines rather than moving the cursor to any position on your terminal. It is a fast, easy-to-use editor appropriate if you are using a 300 or 1200 baud modem and do not have a screen-drawing terminal.

EDITING CONCEPTS

This section defines terms and concepts which are used in the following sections. Step-by-step tutorial sections are included to provide practice of each command.

FILES

Information is saved on the computer in "files." A file is simply a container of information. A file has two components: a filename and the actual contents of the file. The filename is the tag by which you identify the file. For more information on files and filenames, refer to the chapter on "File Operations". DGIS files can contain the results of a search ("downloaded") files, post-processed search results, and your mail messages.

An editor enables you to create a new file or to modify the information within existing files. No matter what kind of file you are editing, the editor commands are the same.

BUFFER

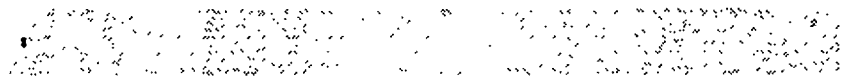
A file is a permanent container of information within the computer. In contrast, a "buffer" is a temporary workspace in the computer. When you request the editor, DGIS copies the contents of the file you chose to edit into a buffer. Any commands you give the editor will cause changes to occur only to the text in the buffer. When you decide to make those changes permanent, you can give the command to "write" the contents of the buffer back into the file. If you do not use the write command, the file will not be changed.

EDITING MODES

The Ex editor has two possible modes: **Text Entry** Mode and **Command** Mode. Whenever you are putting new text into the buffer you are in **Text Entry** Mode. When you are giving commands to change, display, write, or otherwise affect the text that is already in the buffer, you are in **Command** Mode. It is easy to tell which mode you are in. If your terminal shows a number, such as:

then you are in **Text Entry** Mode, and the editor is waiting for you to type some text to go into the buffer at line 1. You could also be entering text at line 2, or 3 or any other number.

If your terminal shows a colon, such as:



you are in **Command** Mode. The colon is the editor prompt indicating that the editor is waiting for you to give a command to affect the text in the buffer.

TEXT ENTRY MODE

Whenever you enter the Ex editor, you are automatically put into Command Mode. After you switch to Text Entry Mode, you can then type-in any words or text you want, including carriage returns. When you are finished putting text into the buffer, you must indicate that you are through with Text Entry Mode by typing a period "." alone on a line. After this you will be in Command Mode again.

COMMAND MODE

When you are in Command Mode, the editor is ready to accept any command. The most common editor commands include the commands to print, append, substitute, context search, and delete text. When you give a command to add text to the buffer (insert, append, or change) you will be put into Text Entry Mode. The line number you see is the line where the text is going to be added to the buffer.

LINE NUMBERS

The Ex editor is a line-oriented editor. Typically, line numbers will be displayed on each line of text. Line numbers are helpful for keeping a perspective on where you are in the buffer.

COMPONENTS OF COMMANDS

Editor commands have two basic building blocks: the command itself, which is usually one letter and an optional address expression preceding the command. The command tells the editor what function to perform, and the address expression tells where to perform that function.

ADDRESS EXPRESSION

An address expression can be as simple as a line number or a range of line numbers. If you include an address expression in your command, the editor will perform the specified function on the text indicated by the address expression. If you don't include an address expression, the editor will perform the function on the default line or lines, depending on the command. Normally, the default line is known as the "current line."

THE CURRENT LINE

The current line is the line on which the most recent operation was performed. For example, if you just printed the third line, then the third line is the current line. Any command you give without an address expression will be performed on the current line.

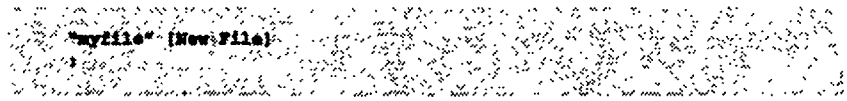
SURVIVAL KIT OF COMMANDS

As described above, commands have two parts: the command itself, and an optional address expression. If the command has no address expression, the operation will be performed on the current line, also known as "dot". This section describes a set of commands and address expressions which are most often used. All commands are followed by a **<RETURN>** .

The following sections will cover how to use the basic editor commands. Also included are tutorial sections designed for you to use at the terminal with the Ex editor. If you are not at a terminal, you can skip the tutorial sections.

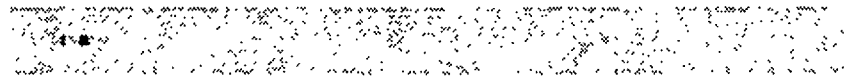
CREATING A FILE

To edit a file, select *edit* from the File Operations menu. DGIS will first ask you to choose an editor (choose *ex*), then prompt you for a filename. Responding with a new file name (e.g., *myfile*) indicates that you are creating a new file, and the editor will put you into Command Mode. You will see:



APPENDING TEXT

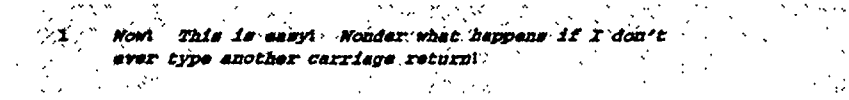
You can enter text only in Text Entry Mode. To switch from Command Mode to Text Entry Mode, you can give the **append** command:



You will see a line number that tells you on which line you are about to enter text. Since you are editing a new file, the editor starts at line 1.

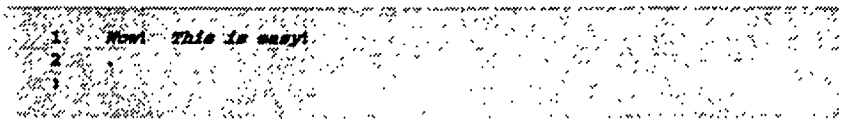
From here simply type characters, which will appear on your terminal and be entered into the buffer. When you are finished typing in the first line, you should hit the **<RETURN>** key to indicate you are ready to put text into the second line of the buffer.

After the **<RETURN>**, the editor prompts you with a **2** for line 2. If you do not type a <RETURN>, you are still entering text at line 1. Your terminal may cause the text to "wrap around"; that is, to go to the next line of the screen without having a line 2. See example below:



All the text is on line 1, although the terminal has wrapped it around to the next line so you can read it. (Up to 253 characters can be placed on one line.)

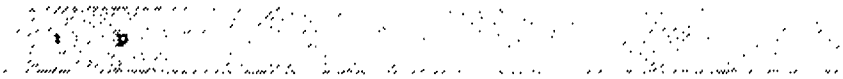
To end Text Entry Mode, type a period "." alone on a line, followed by a <RETURN>:



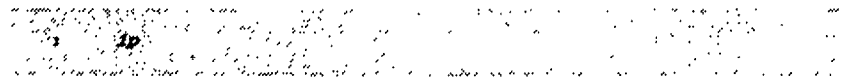
Now you are in Command Mode. Whenever you see the colon, you are in Command Mode; the editor is waiting for a command. When you give a command, be sure to press the <RETURN> key.

PRINT

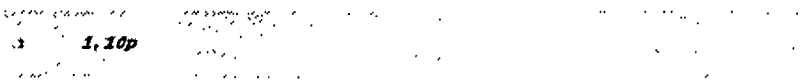
The **print** command causes the addressed lines of the buffer to be displayed, or printed, on your terminal. The editor print command does not cause an offline, paper printout to be made. **Print** causes lines to be displayed on your terminal only. When you are in Command Mode, type:



Typing **p** without an address expression causes the current line to be printed. To indicate a specific line to be printed, you can include an address expression, such as:



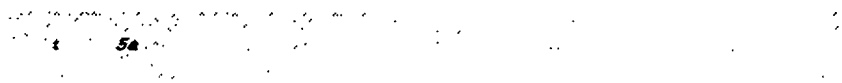
You can also indicate a range of lines to be printed. For example, the first ten lines of the buffer:



APPENDING MORE TEXT

To add more text to a file, use the append command again. Without an address expression, the editor will append the text on the line after the current line. You can type in as many lines of text as you want, followed by a period (".") alone on a line to indicate you are through appending.

You can specify exactly where you want to append text by giving the a an address expression. For instance, to append text after line 5, type:



SAVING A FILE AND EXITING THE EDITOR

In order to save your file and exit the editor, type the command *wq* .

```
:     wq
```

To exit the editor without saving the file, just type *q* . To save the file (write it out) without exiting the editor, type *w*. To do both (save the file and exit), as in the example above, type *wq*.

Note: you will receive a message from the editor if you have not saved your file. It will read something like: No write since last change (quit! overrides).

Keep in mind that without specifically writing out your file with the **w** command, any changes you have made to your file will not be saved.

TUTORIAL

Create the text of a mail file called 'water-search' (which will be used in later examples). First, from the file operations menu select **edit**.

```
                              FILE OPERATIONS
  The following utilities are available for file operations:

1     list       List files in your account.
2     display    Displays a designated file.
3     copy       Copies a file under a new name in your  account.
4     rename     Renames (or moves) a file under a new name.
5     delete     Deletes a file in your account.
6     edit       Edit a file.
7     permit     Grants or denies access to your files or  directories.
8     split      Splits a large file into several small  files.
9     subdir     SUBDIRECTORY FUNCTION MENU.
  Enter a menu number, a command, "b" to backup, "t" for  top, or "e" to
end:   *
```

Choose **edit** or *6* from the menu above, then select the *ex* editor and enter the name of the file to edit *water-search*.

EDITORS

The following editors are available to you

```
1       ex         Use the ex line editor, exit by typing  'wq'.
2       vi         Use the vi full screen editor, exit by  typing 'ZZ'.
3.      emacs      Use a simplified editor.
4.      recover    Recover an emacs file lost due to dropped  connection.
  Enter a menu number, a command, "b" to backup, "t" for  top, or "e" to
end:
  * ex
  Name of file to edit or "quit":
* water-search
```

Once you are in the editor, you will see the prompt:

```
"water-search" [New File]
```

Enter Text Entry Mode by typing the letter a (to append to the file):

```
:  a
```

You can try entering the text below (at each line number on your screen:)

```
 1      Bill,
 2      I am planning to conduct a search
 3      to locate information on the environmental
 4      fate of some of the chemical
 5      constituents of the new products.
 6      Here is a list of the terms I plan
 7      to use:
 8      aquatic
 9      biotic
10      fate
11      air
12      leach
13      mobility
14      .
```

Typing a period will return you to Command Mode. Let's add two more terms to the file. Enter the Text Entry Mode to append text. Give the command to append text:

```
:  a
```

DGIS will then re-enter the Text Entry Mode. Append the two following terms:

```
14        sediment
15        uptake
16        .
```

END TUTORIAL

Write out the file (to save it) and exit the editor:

```
:  w
"water-search" [Newfile] 15 lines 244 characters
:  q
```

Note: you could also type both editor commands at once: wq

EDITING AN EXISTING FILE

To edit a file that is in your file area, select **edit** from the File Operations menu, then *ex* from the Editors menu, just as in the previous section. You can also use the DGIS command mode by entering *ex*. DGIS will prompt you for the filename and copy that file into the buffer. You will be making any changes to the text in the buffer.

After copying the file into the buffer, the editor will display the number of lines in the buffer. You are automatically in Command Mode. The current line(dot) is the last line.

```
"water-search" 15 lines 244 characters
:
```

DELETE

You can delete an entire line or a range of lines in the buffer by using the delete command, as below:

: *d* (deletes current line)
: *5d* (deletes line 5)
: *1,5d* (deletes lines 1-5)

The **delete** command uses exactly the same syntax as the **print** command. Therefore, as a safeguard to assure that you don't delete any necessary text, you can give a **print** command before you delete. For example, give the command to print lines 2 through 4 by typing *2,4p* to see what would be deleted if you typed *2,4d*. Then give the **delete** command *2,4d*, since you have checked that the text is really what you want to delete. When you delete text from the buffer, the editor renumbers the remaining lines. For example, after you delete line 1, the previous line 2 is renumbered to line 1.

MORE TUTORIAL

Re-enter the file you just created 'water-search' using the Ex editor.

Once in Ex, display the contents of the file using the print command:

```
: 1,15p
    1   Bill,
    2   I am planning to conduct a search
    3   to locate information on the environmental
    4   fate of some of the chemical
    5   constituents of the new products.
    6   There is a list of the terms I plan
    7   to use:
    8   aquatic
    9   biotic
   10   fate
   11   air
   12   leach
   13   mobility
   14   sediment
   15   uptake quote
```

Suppose you want to get results on soil or water effects. If you do, air should be deleted. The term "air" really doesn't belong in this list. Delete the term, then redisplay the file:

```
: 11d
: 1,14p
```

Note that the lines have been renumbered.

END TUTORIAL

This file will be used later. Save the file and quit the editor:

```
:  w
"water-search" 14 lines 240 characters
:  q
```

BASIC EDITING

This section describes another set of tools, including more complex address expressions and additional commands. The previous section described commands that deal with an entire line, or more than one line. The editor also has commands to change a word within a line, to search for a word, and to substitute one word for another.

ADDRESS EXPRESSIONS

"Dot"

The current line is also known as "dot". You can indicate the current line, dot, in an address expression by denoting it with a period "." For example, to print line dot (your current line), type:

```
:  .  p
```

To delete lines dot through ten, you can type:

```
:  .  ,10d
```

Dot can also be used in an arithmetic address expression. For instance, to delete line dot and the two following lines from the file, you can type:

```
:  .  ,  .  +  2d
```

One snortcut way of figuring out which line of the file is the current line, or line dot, is to print it. You can print line dot simply by typing a dot alone:

```
:  .
```

FAIL-SAFE FEATURES

If you forget to give a command (such as *p* to print or *d* to delete), and just give the line address (e.g., *8*) Ex will, by default, print your current line. Similarly, if you enter a command (such as *d* to delete) with no line number address, Ex will operate only on the current line.

Thus, you can easily operate on your current line without repeatedly stating its line number or address. And, for the frequently used **print** command, you only need to provide the line number(s) that you wish to view.

DOLLAR SIGN

Just as the period is a special character denoting line dot, the dollar sign(" $ ") is a special character referring to the last line in the buffer. To print the last line in the buffer, you can type:

```
: $p
```

or simply:

```
: $
```

Like dot, the dollar sign comes in handy in arithmetic address expressions. You can use the dollar sign to print the whole buffer:

```
: 1 ,$p
```

You can print the last two lines of the buffer:

```
: $-1, $p
```

The editor supports a number of special characters that can be used in address expressions. These special characters are described at the end of this chapter.

TUTORIAL

Re-enter the file 'water-search'. First display the entire file using the special character, $:

```
: 1, $p
```

Next display the last two lines of the buffer, again using the special character:

```
: $-1, $p
```

Your screen should show:

```
13    sediment
14    uptake
```

Print line 8, then verify that line dot is at line 8:

```
: 8p
8   .
```

Delete the lines 8 - 10 of the file, using the dot address:

```
: . , .+ 2d
```

Display the file again. You should have the following:

```
: 1 , $p

1 Bill,
2 I am planning to conduct a search
3 to locate information on the environmental
4 fate of some of the chemical
5 constituents of the new products.
6 There is a list of the terms I plan
7 to use:
8 leach
9 mobility
10 sediment
11 uptake
```

Exit the editor **WITHOUT** saving the changes made in this session:

```
: q      (You will be reminded you haven't saved your results)
```

Follow the directions and enter:

```
: quit!      (or q!)
```

CONTEXT SEARCH

You can find a line in the buffer that contains a string of characters. For example, your file 'water-search', which you created and edited in the tutorials described above, looks like this:

```
 1   Bill
 2   I am planning to conduct a search
 3   to locate information on the environmental
 4   fate of some of the chemical
 5   constituents of the new products.
 6   There is a list of the terms I plan
 7   to use:
 8   aquatic
 9   biotic
10   fate
11   leach
12   mobility
13   sediment
14   uptake
```

By looking at the buffer printed out, it's easy to see that "leach" is on line 11. However, in long, complex buffers finding a string of characters can be difficult and time-consuming. To search for the string of characters "leach", give the following command:

```
: /leach/ (or/leach)
```

The editor will locate the string and print the line:

```
11  leach
```

A context search can be used as an address expression. If you wanted to find the line with "leach" and delete the line that string appeared on, you could type:

```
: /leach/d
```

If you wanted to find the line with the word "leach" in it, and append text after that line, you could type:

```
: /leach/a
```

The editor would put you in Text Entry Mode, prompt you with **12**, and enable you to enter text at line 12. No lines would be erased from the buffer; but those lines from line 12 on to the last line in the buffer would be renumbered.

A context search finds the first occurrence of the specified string in the buffer, starting from the current line. If the string does not occur between the current line and the last line of the buffer, the editor wraps around to the top of the buffer and continues searching until it arrives back at the current line. If you want to find the first occurrence of the search string in the buffer, you should start at the first line of the file by typing:

```
: 1p
```

Then enter:

```
: /fate/
```

You can do consecutive context searches for the same string by typing:

```
: /
```

The editor will remember the string most recently used in a context search (in this example "fate") and search for the next occurrence of it in the buffer.

The editor has a variety of special characters to use with context searches. The use of these special characters is tricky, and therefore saved for the last section on special characters.

BACKWARD CONTEXT SEARCH

The backward context search works just like the normal context search, except that the editor searches from line dot toward the beginning of the buffer. If the string is not found, the editor wraps around to the last line in the buffer, and continues to search up to the current line. The syntax for a back context search is:

```
: ?fate?  (or ?fate)
```

To search back for the same string, the shortcut is:

```
: ?
```

SUBSTITUTE COMMAND

The substitute command is handy for correcting errors within a line. You can substitute one string for another within the line addressed by a address expression. If you don't include an address expression, the editor will perform the substitution on the current line. For example, your buffer may look like this:

```
 1  Bill,
 2  I am planning to conduct a search
 3  to locate information on the environmental
 4  fate of some of the chemical
 5  constituents of the new products.
 6  There is a list of the terms I plan
 7  to use:
 8  aquatic
 9  biotic
10  fatte
11  leach
12  mobility
13  sediment
14  uptake
```

You can correct the spelling mistake by using the following substitution command:

```
: 10s/fatte/fate/
```

The s tells the editor to search for the first occurrence of the first specified string ("fatte"), and substitute the second string ("fate") for it. The 10 is the address expression telling the editor to do this on line10.

OTHER EXAMPLES OF SUBSTITUTIONS:

```
: 11s/leach/leachate/p
```

This causes the editor to look on line 11 for "leach", substitute "leachate" for it, and print the resulting line. The **print** command can be combined with the **substitute** command. Often it is a good idea to print the changed line to be sure it is what you expected:

```
: 1 ,$s/leach/leachate/
```

The above example shows that you can substitute one string for another on more than one line in the buffer. However, only the first occurrence of the string in each line will be affected by the substitution.

GLOBAL

To affect every occurrence of a string in a line, or range of lines, use the **global** command. For example, if you wanted to change every occurrence of "fate" in the buffer to "disposition" on every line, you could type:

```
: 1, $s/fate/disposition/g    OR    %s/fate/disposition/g
```

To change every occurrence of "fate" to "disposition" in line only, type:

```
: s/fate/disposition/g
```

PITFALLS

Unusual and unwanted results can happen with the global substitute command. If the string you wish to replace occurs in other words, all of the occurrences will be changed. For instance, if you changed all occurrences of "to" to "too", "toward" would become "tooward" (provided "toward" also was in the text).

UNDO

You can restore a file to its previous condition by using the **undo** command. **Undo** works only on the last substitute or delete command you gave. No address expression is necessary. Just type:

```
: u
```

The editor will restore the file to its state just before your last substitution or deletion.

BROWSING THE BUFFER

To view one line after another through the buffer, you can hit the <RETURN> key. <RETURN> has the effect of +1p; that is, of printing the next line on your terminal. Another <RETURN> prints the line after that.

BROWSING BACKWARDS

You can step through the buffer backwards, or toward the beginning of the buffer, by typing a minus " - " sign, followed by a <RETURN>:

```
: - <RETURN>
```

SPECIAL CHARACTERS

The Ex Editor supports a number of special characters in address expressions and context search expressions. Dot (.) and dollar sign ($) are two common examples, for addressing the current line and the last line, respectively.

Keep in mind that any of the context search expressions may be used as address expressions for other commands.

CONTEXT SEARCH EXPRESSIONS

The following eight rules apply to context search expressions. They can be used in both a forward context search, such as */find me/*, or a backward context search such as ?*find me, too* ?.

1. Any character except a special character will be matched to itself. Special characters include the context search expression delimiters / and ?, as well as the characters [, . , and sometimes ^ and $.
   : /AV/ will find the next occurrence of "AV"
   : /AV/d will delete the next line containing "AV"
2. In order to match a special character to itself, its special character meaning must be temporarily turned off. The backslash "\" turns off the function of a special character for one operation. For instance, to context search for a slash " / ", which is a special character, you can type " \/" To locate "mg/m3" type:
   : /mg\/m3/
   Or to search for "$" (e.g., in $1000), you must type:
   : /\$/
   The backslash turns off the special character meaning of the "$", and allows it to be matched literally.
3. A "." matches any character:
   : */ .g/* will locate "ug" and "mg". It will not locate strings ending in "ing" because of the blank space in front of the dot.
   : /m .n/ will locate "man", "men", "women", "woman", "many", "money" or any string containing "m" and "n" separated by one space.
4. A string of characters enclosed in brackets, [ ], matches any character in the string. For example, [0123456789] matches any digit. To locate either 3500 or 3600 enter:
   : /3[56]00/
5. A string of characters in brackets, with the special character " ^ " in front of the string, will match any character not in the string. For example, [^012345678] matches only the number 9 (as well as any letter of the alphabet, since it would **NOT** be part of the string). To match similar CAS Registry Numbers type:
   : /3[^12347890]00/ will locate the same string as /3[56]00/ in the previous example;
   : /50-000-[^0]/ will match all numbers from 50-000-1 to -9

6. A context search expression preceded by "^" is a match for the expression only if it is found at the very beginning of a line. To locate **"AV"** only if they are the first letters on a line type:
   :/^AV/
7. A context search expression followed by "$" is a match for the expression only if it is found at the end of a line. To locate **"AV"** only if they are the last letters on a line type:
   :/AV$/
8. An empty context search expression stands for a copy of the last expression encountered. For example, if you just searched for /find me/, you could search for the same string by typing //, or back search for it with ??. You can also use the abbreviated form of these commands by entering only a single character.

```
: /twelve/s//thirteen/
```

CHAPTER 11 - ORDER DOCUMENTS

The order feature in DTIC allows you to order hard copies of materials and documents from **DTIC** and from **GENIUS**, a commercial service tailored for DGIS.

USING ORDER

To use order, choose option 2 communicate and option *6* on the other Communications menu or enter the *order* command at any menu prompt.

```
        WELCOME TO THE DoD GATEWAY INFORMATION SYSTEM

  >>>>>>>INFORMATION TRANSFER MODULES
*1   directory       DGIS Directory of Resources
 2   communicate     Connect to Information Resources and People.
 3   process         Information product tailoring.

  >>>>>>>>>INFORMATION UTILITIES
 4   em              Electronic Mail.
 5   files           File operations.

  >>>>>>>>>SUPPORT INFORMATION
 6   help            Description of features.
 7   users           DGIS registered users.
 8   info            DGIS news and information.
 9   utilities       Misc utilities, change passwd
10   fulltext        Full text documents (CIM, DoD, etc.)

 DGIS HOTLINE NUMBER:  (703) 274-7791 or (DSN) 284-7791
 or send questions via DGIS EM to 'dgishelp'
Enter a menu number, a command, "b" to backup, "t" for top, or "e" to
end:
* 2


      >>>>>>>>>>ASSISTED SEARCHING
* 1   assist             Search interfaces menu
      >>>>>>>>>>NON-ASSISTED SEARCHING
  2   connect            Auto-login to remote systems
  3   systems            List of systems with auto access
  4   dial               Unassisted dial into other system
      >>>>>>>>>>OTHER COMMUNICATIONS
  5   people            Communicate interactively with DGIS  users
  6   order             Order documents, articles, etc . . .
  7   bbs               Bulletin Board Systems
  8   Internet          Internet access menu
Enter a menu number, a command, "b" to backup, "t" for top, or  "e" to
end:
*
```

This moves you to the DGIS Order menu:

ORDER

DGIS helps you order materials from DTIC and from GENIUS. Type *'help genius'* to get further information on ordering documents from *GENIUS*. Type 'help dtic' to get further information on ordering DTIC documents directly from DTIC.

```
* 1      dtic        Order DTIC documents directly from DTIC.
  2      genius      Order all document types from GENIUS.
  3      buyfile     Order full text from downloaded citations  via GENIUS.
  4      trans       Order translations from GENIUS.
  5      status      Find the status of a GENIUS order.
Enter a menu number, a command, "b" to backup, "t" for top, or "e" to
end:
*
```

ORDERING DTIC DOCUMENTS THROUGH DTIC

You can order documents directly through DTIC by choosing option *1* from the DGIS Order Menu. The DTIC order form will display on your screen. Just fill it out, using the commands shown at the bottom of your screen.

DTIC ORDER FORM

This is the DTIC order form. When you complete the form, it will be sent automatically to DTIC. You may order only one document per order form. A contract number is required if you are a contractor ordering classified material. For information about your DTIC order call DTIC-BCR, 703-274-7633 or DSN 284-7633.

```
Name:                Marie T. O'Mara
Organization:        Defense Technical Information Center
Address:             DTIC-BLN
City, State, Zip:    Alexandria, VA 22304
Phone Number:        (703) 274-7791
DTIC User Code: 24688          Paper or Fiche: MF
NTIS Dep Acct # : 98886        Quantity: 2
Contract # :                   Routing info: DTIC-BLN
Document # :AD8553246
Place order (y/n): y
Quit (^T)      PrevBlock (<= ) NextBlock <TAB>    Redraw(^R)    Help(?)
```

GENIUS

In addition to ordering documents directly from DTIC, you can also order materials from GENIUS.

WHAT IS GENIUS?

GENIUS is an information gathering and document delivery service that provides customized services in all subject fields. It is a service tailored for DGIS and provided by Information On Demand (IOD), a commercial service.

GENIUS can locate and retrieve copies of any publicly available document, regardless of subject, date or publication type. These include journal articles, patents, conference papers, technical reports, government documents, catalogs, newspaper articles, Securities and Exchange Commission (SEC) filings, standards and specifications, theses and product brochures.

HOW DOES GENIUS WORK?

When **GENIUS** receives your order, it is switched electronically to professional staff members located throughout the U.S. These **GENIUS** document specialists have daily access to the collections of 20 major U.S. information centers and over 400 databases.

If your request cannot be filled in the U.S., **GENIUS** will go to library centers and information organizations worldwide. **GENIUS** specializes in knowing where and how to access the information you need.

Most documents ordered through **GENIUS** have a turnaround time of 7-10 days from order placement. For documents that can only be obtained from other than regularly staffed sources, the turnaround time is generally 2-10 weeks. Rush handling service (24-48 hours) is also available.

All document orders are sent directly to you. Therefore, it is essential that your shipping address be correct (including zip code). Express and/or facsimile delivery of documents is available upon request and at an additional cost.

GENIUS MENU

To access the **GENIUS** menu, choose option *2* on the Order menu or type the command *genius* at any menu prompt. This will bring you to the menu shown below.

GENIUS

This menu lists many of the types of materials which may be ordered from **GENIUS**. Fill in the forms with as much information as you know. A full citation, although preferable, is not necessary. Please copy abbreviated words as they appear in the original reference. Also, please do not abbreviate words that are spelled out in the original reference. For more information, type *'help genius'*.

```
* 1    ntis          NTIS reports and AD documents.
  2    books         Book purchases.
  3    periodicals   Journal, magazine, and newspaper articles.
  4  * specs         Standards and specifications.
  5    sec           Securities and Exchange Commission filings.
  6    patents       Order foreign and domestic patents.
  7    catalogs      Catalogs, product brochures, corporate publications.
  8    tech          Dissertations, theses, tech reports, conference
                       agendas.
  9    other         Other types of documents.
Enter a menu number, a command, "b" to backup, "t" for top, or "e" to
end:
*
```

For each item listed on the **GENIUS** menu, there is an order form that will appear on your screen when you choose that item. Your name, address and phone number will automatically appear on the form; just fill in the rest of it as completely as possible. To do this, press your <TAB> key to move through it. If you make several mistakes and wish to erase the order, press <CTRL>R for redraw. For help, type a " ? " and press <RETURN>. When you are finished filling in the form, press <CTRL>T to return to the DGIS menu. If you answer *y* to the "English only" question, you will be sent documents only in the English language.

ORDERING NTIS DOCUMENTS

The NTIS order form, option *1* on the **GENIUS** menu, can be used to order **NTIS** reports and AD documents. It resembles the following:

NTIS ORDER FORM

```
Name:               Marie T. O'Mara
Organization:       Defense Technical Information Center
Address:            DTIC-BLN
City, State, Zip:   Alexandria, VA 22304
Phone Number:       (703) 274-7791
Author(s): Goldstein, D  Kurtz, A D
Report Title: SIC Device Development for High Temperature Sensor  Applications
Year: 1984          NTIS Dep Acct #: 58062        Other Report #  : N93-13677
Additional Information:
English only (y/n)? y  Rush (y/n)? n Express Ship (y/n)? n  Send  order(y/n)? y
Quit (^T)      PrevBlock (<= ) NextBlock <TAB>    Redraw(^R)    Help(?)
```

ORDERING BOOKS

Option 2 on the **GENIUS** menu, **books**, offers a slightly different order form than the NTIS form. Choose this to make book purchases through **GENIUS:**

Books Order Form

```
Name:               Marie T. O'Mara
Organization:       Defense Technical Information Center
Address:            DTIC-BLN
City, State, Zip:   Alexandria, VA 22304
Phone Number:       (703) 274-7791
Author(s): Stallings, William
Book Title: Handbook of Computer Communications Standards
Volume/Yr: 2/1987
ISBN Num: 0-88032-601-X          Publisher: Macmillan
Additional Information:
English only (y/n)? y  Rush (y/n)? n Express Ship (y/n)? n Send  order(y/n)? y
Quit (^T)      PrevBlock (<= ) NextBlock <TAB>    Redraw(^R)    Help(?)
```

ORDERING PERIODICALS

To request journal, magazine or newspaper articles, choose option *3* for the periodicals order form. It looks like this:

Periodicals Order Form

```
Name:                Marie T. O'Mara
Organization:        Defense Technical Information Center
Address:             DTIC-BLN
City, State, Zip:    Alexandria, VA 22304
Phone Number:        (703) 274-7791
Author(s): Barber, Paul
Article: Make the '8' in EIC mean success
Publ Title: Computing Canada
Vol/No/Year/Pages: 19/2/1993/34
ISSN Num: 0073-94831              Type of doc: journal article
Additional Information:
English only (y/n)? y Rush (y/n)? n Express Ship (y/n)? n Send  order(y/n)? y
Quit (^T)      PrevBlock (<= ) NextBlock <TAB>    Redraw(^R)    Help(?)
```

ORDERING STANDARDS AND SPECIFICATIONS

Option *4* on the GENIUS menu, specs, offers the order form for Standards and Specifications:

Specifications Order Form

```
Name:                Marie T. O'Mara
Organization:        Defense Technical Information Center
Address:             DTIC-BLN
City, State, Zip:    Alexandria, VA 22304
Phone Number:        (703) 274-7791
Author(s):
Publ Title: Standard technical report number (STRN) format and  creation
Publ # : Z39.23-1990
Company: NISO PO Box 1056  Bethesda, MD 20827
 Year: 1990                       Type of doc: Standard
Additional Information:
English only (y/n)? y Rush (y/n)? n Express Ship (y/n)? n Send  order(y/n)? y
Quit (^T)      PrevBlock (<= ) NextBlock <TAB>    Redraw(^R)    Help(?)
```

ORDERING SECURITIES AND EXCHANGE COMMISSION INFORMATION

Option *5* is sec, which is used for ordering Securities and Exchange Commission filings:

Securities & Exchange Order Form

```
Name:                Marie T. O'Mara
Organization:        Defense Technical Information Center
Address:             DTIC-BLN
City, State, Zip:    Alexandria, VA 22304
Phone Number:        (703) 274-7791
Author(s):
Publ Title: Stock Exchange to monitor action on corporate code
Publ # : NEC 9108668
Company: Exco Intnl
Year: 1992                  Type of doc: Debt & Equity  Securities
Additional Information: United Kingdom
English only (y/n)? y Rush (y/n)? n Express Ship (y/n)? n Send  order(y/n)? y
Quit (^T)      PrevBlock (<= ) NextBlock <TAB>    Redraw(^R)    Help(?)
```

ORDERING PATENTS

The patents option, option *6*, should be chosen to order foreign and domestic patents:

PATENTS Order Form

```
Name:                Marie T. O'Mara
Organization:        Defense Technical Information Center
Address:             DTIC-BLN
City, State, Zip:    Alexandria, VA 22304
Phone Number:        (703) 274-7791
Assignee(s):
Patent Title: Power supply system for continuously energizing DC  load
Patent # : 239.46-1983
Year: 1983                          Country of Origin: Germany
Additional Information:  Int Pat Class H02J-007/00
English only (y/n)? y  Rush (y/n)? n Express Ship (y/n)? n Send  order(y/n)? y
Quit (^T)       PrevBlock (<= ) NextBlock <TAB>    Redraw(^R)    Help(?)
```

ORDERING CATALOGS AND BROCHURES

The catalogs option, option *7*, is to order catalogs, product brochures or corporate publications:

Catalogs Order Form

```
Name:                Marie T. O'Mara
Organization:        Defense Technical Information Center
Address:             DTIC-BLN
City, State, Zip:    Alexandria, VA 22304
Phone Number:        (703) 274-7791
Co. Product: Buyers Guide
Publ Title: Wall Street & Technology
Vol/Year: 10/1993
Company:                            Publisher:  Wall Street Journal
ISBN Num: 0037-4938                 Type of doc:
Additional Information:
English only (y/n)? y  Rush (y/n)? n Express Ship (y/n)? n Send  order(y/n)? y
Quit (^T)       PrevBlock (<= ) NextBlock   <TAB>  Redraw(^R)    Help(?)
```

ORDERING TECHNICAL REPORTS

Option *8* on the Order menu is **tech**. Choose this for ordering dissertation copies, theses, tech reports or conference agendas:

Technical Reports Order Form

```
Name:                Marie T. O'Mara
Organization:        Defense Technical Information Center
Address:             DTIC-BLN
City, State, Zip:    Alexandria, VA 22304
Phone Number:        (703) 274-7791
Author(s): Doran, T J
Article:  Design and implementation of a fiber optic link for a  LAN
Publ Title:
Vol/Year: 1992
Publisher: Naval Postgraduate School, Monterey, CA
ISBN Num:                        Type of doc: NTIS AD  A257-868-0-XAB
Additional Information:
English only (y/n)? y Rush (y/n)? n Express Ship (y/n)? n Send  order(y/n)? y

Quit (^T)      PrevBlock (<= ) NextBlock <TAB>   Redraw(^R)   Help(?)
```

ORDERING OTHER DOCUMENTS

The last option on the menu is option 9, **other**. Choose option 9 when options 1-8 do not represent a category that matches your needs:

Other Documents

```
Name:                Marie T. O'Mara
Organization:        Defense Technical Information Center
Address:             DTIC-BLN
City, State, Zip:    Alexandria, VA 22304
Phone Number:        (703) 274-7791
Author(s): The, Lee
Title: Project management for the rest of us
Publ Title: Datamation
Vol/No/Year/Pages: 39/01/1993/41-3
Publisher:
ISBN Num:                        Type of doc:
Additional Information:
English only (y/n)? y  Rush (y/n)? n Express Ship (y/n)? n Send  order(y/n)? y
Quit (^T)      PrevBlock (<= ) NextBlock <TAB>   Redraw(^R)    Help(?)
```

OTHER TOOLS FOR GENIUS

Three other options are available on the DGIS Order menu that are very useful when using **GENIUS**. They are the **buyfile**, **trans** and **status** options.

BUYFILE

Option *3* on the Order menu, **buyfile**, provides a means to order full text documents through GENIUS from your DGIS files containing downloaded citations.

Buyfile Menu

This menu provides assistance while ordering full text documents from bibliographic citations in the DGIS standard format.

- **buy** is used on a file which has been previously processed by **review**, or a file processed by **select**. It will place orders for all citations in your input file.

- select is much like review, except more specialized. It allows a variety of output formats for viewing files, and is a single-step process, save or discard. Only information pertinent to ordering a document is saved.

```
2.6.3 Buyfile

1     buy      Place orders on previously sele- ed citations.
2     select   Select citations to order from a reformatted  file.
Enter a menu number, a command, "b" to backup, "t" for top, or  "e" to
end:
*
```

BUY

Choose option *1* or **buy** to place orders for an entire file of previously selected citations. **Buy** should be used only on a file which has been previously processed by review, or a file processed by **select**. It will place an order for each order in the input file.

You will be asked to enter the name of the DGIS file containing the citations, and the orders will be placed based on that information:

```
* buy
Enter file with citations, or 'quit' [ ] =>
Please choose a method to order the full text for citations in
the input file.
1.     Process all citations, without verification.
2.     Process all citations rush order, without verification.
3.     View each citation and request verification.
4.     Quit.
Please enter choice number ->
```

SELECT

Option 2, **select**, is much like **review**, except more specialized. It allows a variety of output formats for viewing files. **Select** is a single-step process, save or discard. It steps you through all the citations, one at a time. Only information pertinent to ordering a document is saved. When you choose *select* you can choose from the formats below, and your order will be placed.

```
* select
Please enter file with citations, or 'quit' [ ] =>
Please choose the format in which you would like to see
the citations displayed.
1.    title year author
2.    title year author accno
3.    title year author abstract
4.    title year author descriptor
5.    Quit
Please enter choice number ->
```

TRANSLATIONS

Option 4 on the Order menu, trans, allows you to order translations from GENIUS. A sample order form resembles the following:

Translations Order Form

```
Fill in the required information in order to receive a  translation of
the specified document:
Name:                Marie T. O'Mara
Organization:        Defense Technical Information Center
Address:             DTIC-BLM
City, State, Zip:    Alexandria, VA 22304
Phone Number:        (703) 274-7791
Language of original document: Russian
Translation language: English
Description of document: Russia:  RIMAKO stocks daily quotation  service
was launched by a small business.  Kommersant  Aug 17,  1992   p. 5
Database Vendors 7375000
Quit (^T)    PrevBlock (<- )   NextBlock <TAB>    Redraw(^R)    Help(?)
```

A GENIUS representative will call you to discuss your delivery date requirements and the costs of translating your document. GENIUS may require further information about the document itself.

STATUS

To find the status of any GENIUS order that you have placed with the system, type the status command at any DGIS menu prompt (or choose option 5 from the Order menu). You will be given the following information about your order:

```
            Client         Date      In        Date     Date       Reason
IOD   Order Control   Rush Received  Process   Filled   Invoiced   Returned
                 Jobs Which Have Been Queued:
```

UPDATES

You can stay up-to-date with the GENIUS computer-based Current Awareness Service (weekly, monthly, quarterly or semi-annually) providing the latest developments in your field(s) of interest. Contact the GENIUS help desk at 1-800-999-4463 for more information on signing up.

GENIUS PRICING

Check online pricing information for the current costs. The costs as of the publication date of this user guide are as follows:

- $18.00 for 1-5 documents
  $14.00 for 6-25 documents
  $12.50 for 26-100 documents
  $11.00 for 100-500 documents
  plus .35 per page for standard orders.
  (Copyright fees and international postage extra).
  Verification of citations $7.50 fee
- Rush handling priority available for $14.00 per item.
- Courier delivery service available for $17.00 (for <30 pages) or $28.00 (for >30 pages).
- Facsimile service available at the following charge:
  $2.00 per page $15.00 minimum per order
  $3.00 per page for >30 pages

GENIUS HELP

While logged into **DGIS**, you can type the command **help genius** at any menu prompt for online help in using the ordering system. You can also speak directly to a **GENIUS** customer service representative in McLean, VA at one of the following numbers:

(800) 999-4463 or (703) 442-0303

CHAPTER 12 - SEARCHMAESTRO

INTRODUCTION

SearchMAESTRO (Menu-Aided Easy Searching Through Relevant Options) is an information searching tool used in conjunction with over 850 online databases. It is designed to assist DTIC users search for online information without needing to know how to query a particular database and without having to open an account with each database vendor. ***SearchMAESTRO*** also provides experienced searchers greater flexibility in tailoring searches using Common Command Language (CCL). ***SearchMAESTRO*** makes the process of searching many databases appear as if you are searching one database because, no matter what the individual search requirements are, you search them all in the same easy way.

To register for ***SearchMAESTRO***, you must be a DTIC user and have an NTIS (National Technical Information Service) Deposit Account for billing purposes. The Defense RDT&E Online System (DROLS) databases can be included only if you are also a registered DROLS user.

SearchMAESTRO has been developed through the efforts of the DTIC Department of Defense Gateway Information System (DGIS) program and Telebase, Inc., Wayne, PA.

ACCESSING SEARCHMAESTRO

SearchMAESTRO can be accessed through the Defense Gateway Information System (DGIS), or directly through one of the commercial networks, Tymnet or Sprintnet.

ACCESSING SEARCHMAESTRO THROUGH DGIS

To use ***SearchMAESTRO*** through DGIS, login to your DGIS account. You can proceed directly to ***SearchMAESTRO*** by typing the command ***maestro***, or you can move through the DGIS menu hierarchy to reach ***SearchMAESTRO***.

At the main DGIS menu, enter the number *2* and press <RETURN> to proceed to the communications menu.

```
        WELCOME TO THE DoD GATEWAY INFORMATION SYSTEM

 >>>>>>>INFORMATION TRANSFER MODULES
*1   directory       DGIS Directory of Resources
 2   communicate     Connect to Information Resources and People.
 3   process         Information product tailoring.

 >>>>>>>>INFORMATION UTILITIES
 4   em              Electronic Mail.
 5   files           File operations.

 >>>>>>>>SUPPORT INFORMATION
 6   help            Description of features.
 7   users           DGIS registered users.
 8   info            DGIS news and information.
 9   utilities       Misc utilities, change passwd
10   fulltext        Full text documents (CIM, DoD, etc.)

 DGIS HOTLINE NUMBER:  (703) 274-7791 or (DSN) 284-7791
 or send questions via DGIS EM to 'dgishelp'
Enter a menu number, a command, "b" to backup, "t" for top, or "e" to
end:
* 2
```

At the communications menu, press <RETURN> since the asterisk is already highlighting the correct selection.

```
                              COMMUNICATIONS
DGIS will automatically connect you to a wide range of remote information
systems and to other people online the DGIS. For other information
systems, you must have already registered with these systems and have
provided DGIS your access passwords.

   >>>>>> ASSISTED SEARCHING
*  1      assist          Search interfaces menu.

   >>>>>> NON-ASSISTED SEARCHING
   2      connect         Auto-login to remote systems
   3      systems         List of systems with auto access.
   4      dial            Unassisted dial into other systems.

   >>>>>> OTHER COMMUNICATIONS
   5      people          Communicate interactively with other DGIS users.
   6      order           Order documents, articles, etc.
   7      Internet        Internet access menu

Enter a menu number, a command, "b" to backup, "t" for top, or "e" to
end:
*1
```

At the Assisted Searching Menu, press <RETURN>. Remember, you can also type *maestro* at any menu prompt.

```
                        ASSISTED SEARCHING
DGIS will offer a number of interfaces to make searching of diverse
databases easier, at varying levels of search expertise. These interfaces
are in various stages of development. The first is offered below.

  1      ccl          Common Command Language
  2      maestro      SearchMAESTRO - menu-driven searching.

Enter a menu number, a command, "b" to backup, "t" for top, or "e" to
end:
*2
```

To logoff *SearchMAESTRO* and return to DGIS, press

< ESC> then < CTRL> D.

ACCESSING SEARCHMAESTRO THROUGH DIRECT DIAL

You can dial directly into the ***SearchMAESTRO*** system by going through Tymnet or Sprintnet from any location with a computer terminal or a PC with communications software and a modem.

Tymnet

Set-up communications software to dial your local TYMNET number.

Connect message given.
Type ***a*** **(DO NOT press RETURN)**
Message given to please log in.
Type ***easynet07*** press ***<RETURN>***
Wait for ID? prompt.
Enter login id. press ***<RETURN>***
Wait for PASSWORD? prompt.
Enter password. Press **<RETURN>**.

You are now on ***SearchMAESTRO***.

Sprintnet

Set-up communications software to dial your local SPRINTNET number.

Connect message given.
Press *<RETURN>* twice.
@ sign given
Type *21514032A* press *<RETURN>*.
Wait for ID? prompt.
Enter login id. press *<RETURN>*.
Wait for PASSWORD? prompt.
Enter password press *<RETURN>*.
You are now on *SearchMAESTRO*.

To Logoff *SearchMAESTRO*

To logoff *SearchMAESTRO* when you have dialed in through Tymnet or Sprintnet, type the letter *l* (lower case L). Disconnect as determined by your communications software.

FOUR WAYS TO USE SEARCHMAESTRO

"SEARCHMAESTRO CHOOSES A DATABASE"

One way to use the system is to have *SearchMAESTRO* choose the database. This method was designed for the inexperienced user. It guides you through the search process by using a series of menus that prompt you for all of the information needed to carry out the search. *SearchMAESTRO* leads you to the appropriate database and performs the search.

The following example illustrates the use of *SearchMAESTRO* to follow a trail of menus to select an appropriate database for your search topic. Assume you are looking for information about DoD activities in the area of artificial intelligence.

The first menus you will see in *SearchMAESTRO* are shown below. Choose *3* to move to the Search Main Menu, and then choose *1* ("*SearchMAESTRO* chooses a database").

```
        PRESS  TO SELECT

        1      See information about SearchMAESTRO
        2      See SearchMAESTRO pricing
        3      Start a search
        4      Leave SearchMAESTRO
        H      for Help, C for Commands
```

```
PRESS  TO SELECT

1      SearchMAESTRO chooses a database.....Menu searching
2      SearchMAESTRO scans a group of databases.....Menu searching
3      Enter a database name.....Menu searching
4      Enter a database name.....Common Command searching
5      Instructions, Database directory
6      NEW! This Month:  Database Updates
H      for Help, C for Commands
```

If you want to search any of the commercial databases, choose *1* (for Subjects) from the following menu and continue to select the appropriate categories from the series of menus that follow.

```
PRESS  TO SELECT

1       Subjects
2       Government Research and Development
H       for Help, C for Commands

-> 1
```

See the section "DROLS and Other Government-Sponsored Databases" under topic 2.3, "Enter a database name" for information about the government research and development section.

```
PRESS  TO SELECT

1       Business
2       Science & Technology
3       Medicine & Allied Health
4       Law, Patents, Trademarks
5       Social Sciences & Education
6       Arts, Literature, Religion
7       Entertainment & Travel
8       Persons
9       News
H       for Help, C for Commands

-> 2
```

```
   PRESS  TO SELECT

   1       Agriculture & Food
   2       Biology
   3       Chemistry
   4       Computers
   5       Earth Sciences
   6       Engineering & Technology
   7       Energy
   8       Mathematics
   9       Physics
   H       for Help, C for Commands

-> 4
```

```
   PRESS  TO SELECT

   1       Computer products & applications
   2       Computer science & technology
   3       Telecommunications
   H       for Help, C for Commands

-> 2
```

You have now used *SearchMAESTRO* to lead you to a group of databases relevant to your topic. To do a search in a single database, choose *1* (for Search a database).

```
  PRESS  TO SELECT

  1      Search a database
  2      Scan group of databases
  H      for Help, C for Commands

-> 1
```

At this point, you can choose the type of publication that best meets your needs. In this example, selecting *1* (for "Research journals") will give you the COMPENDEX PLUS database.

```
  PRESS  TO SELECT

  1      Research journals
  2      Popular magazines
  3      Trade magazines
  4      Newsletters on computers & electronics
  5      Books on computers
  H      for Help, C for Commands

-> 1

Database selected: COMPENDEX PLUS (abstract, reprints available
Press <RETURN> to continue....
```

Searching by different types of information, called field searching, is available in this particular database, so you will see a menu of all the fields. Choose *1* to enter the subject matter search terms associated with your topic. If you are not sure how to enter terms in a particular field, enter *h* for help.

```
*COMPENDEX PLUS*

   PRESS  TO SELECT

  1      by subject words
  2      by CAL code
  3      by author name
  4      by journal name
  5      by publication year
  6      by language
  7      by article type
  H      for Help, C for Commands

Total charge thus far:  $2.00
-> 1
```

If field searching is not available in a database, you will not see this menu and searching will automatically be by subject only.

In this example, use 3 related terms for artificial intelligence and 2 for DoD. Note the parentheses around the related terms and the use of the wild card (the slash / character) for system or systems. If you make a typing error, you will have a chance to enter the terms again.

```
Type H for more help and examples.

ENTER SUBJECT WORDS

-> (ai or artificial intelligence or expert system/) and (defense
or dod)



Is:
(AI OR ARTIFICIAL INTELLIGENCE OR EXPERT SYSTEM/) AND (DEFENSE OR DOD)
Correct? (Yes/No) -> y
```

At this point, you could define your search further by adding another field, such as publication year. You cannot select the subject field again; this will overwrite your prior subject term entry.

Choose *2* when you are ready to do the search. You will see status messages as ***SearchMAESTRO*** conducts the search.

```
   PRESS  TO SELECT

   1      Narrow your search (add more fields)
   2      Begin your search now
   H      for help,  C for commands

-> 2


We have no reason to believe that errors exist in the data or services
furnished. If there are any such errors the parties hereto have no
liability for any consequential, incidental or punitive damages. No
warranty, either expressed or implied, including but not limited to
those of merchantability or fitness for a particular purpose are made.
Any liability is limited to the amount paid by the customer to Telebase.

System is now searching Compendex Plus, copyrighted 1991 by Engineering
Information, Inc., New York, NY and available through Dialog Information
Services, Inc.

Accessing network          Completed.
Accessing Database Host    Completed.
Logging on                 Completed.
Logging on (second step)   Completed.
Selecting Database         Completed.
Submitting Search          Completed.

There are 96 item(s) which satisfy
your search phrase.
We will show you the most recent 10
You may wish to PRINT or CAPTURE this data if possible.
```

The 10 most recent citations will be displayed on your terminal. If you are printing or capturing the information, you may not want to pause and press <RETURN> between each citation. Press ^*t* and the display will be continuous.

```
Heading # 1     Searched: 01-30-1991 08:05
^S/^Q: stop/start; ^T: Paging OFF; ^C/(esc): interrupt (^=CTRL/CONTROL key)

02991011        E.I. Monthly      No: EI9012144508
 Title: Neural networks for automatic target recognition.
 Author: Roth, Michael W.
 Source: Johns Hopkins APL Technical Digest (Applied Physics Laboratory)v
11 n 1-2 Jan-Jun 1990 p 117-120
 Publication Year: 1990
 CODEN: JHADDQ  ISSN: 0270-5214
 Language: English

Press (return) to continue...->
```

```
Heading # 10

02874967        E.I. Monthly      No: EIM9003-010509
 Title: Prolog based *expert* *system* for the allocation of quality
  assurance program resources.
 Author: Crawford, Kyle A.; Ryada, Osama K.
 Corporate Source: Wolf Creek Nuclear Operating Corp, Wichita, KS, USA
 Conference Title: Proceedings of the 11th Annual Conference on
  Computers and Industrial Engineering
 Conference Location: Orlando, FL, USA Conference Date: 1989 Mar 15-17
 E.I. Conference No.: 12784
 Source: Computers & Industriel Engineering v 17 n 1-4 1989. p 298-302
 Publication Year: 1989
 CODEN: CINDDL  ISSN: 0360-8352
 Language: English

Press (return) to continue...->
```

When the display is finished, you will see a menu providing you with further options concerning the search.

```
  PRESS  TO SELECT

   1      Review results again
   2      See abstracts
   3      Order reprints
   4      See additional headings
   5      Start a new search
   6      Leave System

-> 5


  PRESS  TO SELECT

   1      Return to previous menu
   2      Return to main menu

->
```

To review the results you were just given, select *1*. Enter one of the heading numbers already viewed. The display will start with this heading and end at the last result given at the previous display.

```
PRESS  TO SELECT
  1      Review results again
  2      See abstracts
  3      Order reprints
  4      See additional headings
  5      Start a new search
  6      Leave System

-> 4

At which heading number would you like to begin?
-> 6
```

If abstracts are available, the *See Abstracts* selection will be available on this menu. The system will prompt you for one or more heading numbers.

```
PRESS  TO SELECT
  1      Review results again
  2      See abstracts
  3      Order reprints
  4      See additional headings
  5      Start a new search
  6      Leave System

-> 2

The available Heading numbers currently range between 1 and 99.

Please enter the heading number of the abstracts you wish to see.
Separate each with a comma OR ranges by a dash.  (e.g., 1,5,6 or 25-35)
-> 1

Retrieving 1 abstracts will cost:  $1.75
Do you wish to continue (Yes/No) -> y
```

To order reprints, select *3*. Select the desired delivery service. You will be prompted for ONE heading number. Enter only one heading number; it will be displayed so you can verify that this is the correct heading.

```
PRESS  TO SELECT
  1      Review results again
  2      See abstracts
  3      Order reprints
  4      See additional headings
  5      Start a new search
  6      Leave System

-> 3
```

```
PRESS  TO SELECT

1       NORMAL SERVICE: Reprints will be delivered within three weeks.
        If a reprint cannot be filled within this period then you will
        be notified by mail.

2       EXPRESS SERVICE: Reprints will be delivered within one week via
        Federal Express.  If a reprint cannot be filled within this period
        then you will be notified by phone.  (Cannot use P.O. Box numbers)

Some reprints cannot be delivered at the standard fee.  Reprints that
fall into this category include books, conference proceedings, some
foreign journals, some reports from NTIS, dissertations, and other hard
to locate items.

If a reprint cannot be delivered at the standard fee, you will be
notified by the supplier; in most cases the document can be supplied at
a higher fee.

-> 1

Enter the HEADING number of the article which you would like delivered.
Enter only one article at a time, enter "B" to stop ordering.
-> 1
```

You will be provided five lines to enter the mailing address. You will be also be prompted for your day-time phone number. You will be given the opportunity to modify the address and phone number. Please retain the control number provided by the system. You will be given a prompt to order another heading. You will not need to re-enter the address unless it is different.

```
Enter your name and mailing address below.
(up to five lines)
->      Agency Name
->      Office Symbol
->      Requester's Name
->      Street Address
->      City, State  Zip Code

Your day-time phone number:  ->  555-555-5555


Agency Name
Office Symbol
Requester's Name
Street Address
City, State  Zip Code

phone number:  555-555-5555

Is this correct? (Yes/No/Backup): -> y
Your control number is: 37 - 362 - 1

Accessing delivery service      Completed.
Ordering reprint                Completed>

Enter the HEADING number of the article which you would like delivered.
Enter only one article at a time, enter "B" to stop ordering.
->
```

To see additional headings resulting from your search, select *4*. You will be prompted to enter the number of headings you would like to see. You must retrieve at least ten headings at one time (unless there are less than ten remaining).

```
   PRESS  TO SELECT
   1      Review results again
   2      See abstracts
   3      Order reprints
   4      See additional headings
   5      Start a new search
   6      Leave System

-> 2

There are 14760 headings still available.
How many more headings would you like to see?
-> 10
```

SEARCHMAESTRO SCANS A GROUP OF DATABASES

The scan feature on ***SearchMAESTRO*** is a two-step process that helps you choose the best databases for your search topic. First ***SearchMAESTRO*** searches two to four vendors to find the number of records on your topic in each vendor's database. You then use the results to select one or more databases to search.

To see the list of subject areas for which scan searching is available, enter *scan list* at the –> prompt.

You will see the list arranged into major categories.

```
                    S C A N   C A T E G O R I E S          (Page 1 of 3)

BUSINESS & INDUSTRY     BUSINESS & INDUSTRY cont'd   SCIENCE & TECHNOLOGY
Accounting              Manufacturing                Aerospace
Ag-food *               Marketing                    Agriculture
Banking                 Mergers                      Biology
Company                 Product                      Chem-engn ****
Construction            Property                     Chemistry
Economics               Pub-comm ***                 Civil
Energy-industry         Retail                       Computer
FIRE **                 Services                     Earth-science
Govt-defense            Tax                          Electrical
Insurance               Ticker                       Energy-science
Management              Wholesale                    Materials
                                                     Mathematics
*  Ag-Food:   agriculture and food industry          Mechanical
** FIRE:      finance, insurance and real estate     Metals
***Pub-Comm:  public utilities, communication and    Optical
              transportation                         Physics
****Chem-Engn:chemical engineering                   Telecom
                                                     Transportation
Press (return) to continue...->
```

```
                    S C A N   C A T E G O R I E S          (Page 2 of 3)

MEDICINE                    SOCIAL SCIENCES          ART, LIT., ENTERTAIN.

Medical                     Anthropology             Art
 (includes Nursing,         Archaeology              Dance
 Pharmacology,              Economics                Film
 Medical Research,          Education                Literature
 Consumer Health)           History                  Music
                            Library                  Theater
                            Psychology               TV-Radio
LAW, PATENTS, TRADENAMES    Public-Affairs
                            Sociology
Law                                                  MISCELLANEOUS
Patent
Tradename                   RELIGION, PHILOSOPHY     Biography
                                                     General *
                            Religion
                            Philosophy               * general reference

Press (return) to continue...->


                    S C A N   C A T E G O R I E S          (Page 3 of 3)

NEWS - BY U.S. STATE        NEWS - BY U.S. STATE     NEWS - BY U.S. STATE

Alaska                      Kansas                   New-York
Arizona                     Kentucky                 North-Carolina
California                  Maryland                 Ohio
Colorado                    Massachusetts            Pennsylvania
District-of-Columbia        Michigan                 South-Carolina
Florida                     Minnesota                Texas
Georgia                     Missouri                 Virginia
Illinois                    New-Jersey               Washington
                            Indiana

NEWS - U.S. NATIONAL        NEWS - BUSINESS          PEOPLE IN THE NEWS
National                    Bus-News                 People

To start a scan, return to an -> prompt, then enter SCAN and the name of
a category from this list.

Press (return) to continue...->


  PRESS  TO SELECT

    1    SearchMAESTRO chooses a database.................Menu searching
    2    SearchMAESTRO scans a group of databases:........Menu searching
    3    Enter a database name............................Menu searching
    4    Enter a database name.................Common Command searching
    5    Instructions, Database directory
    6    NEW! This Month:  Database Updates
    H    for Help, C for Commands

-> 2
```

Choose the name of the database category most relevant to your topic. In this example, it is computer. To start the database scan, enter *scan computer* at the -> prompt or Choose *2* (SearchMAESTRO scans a group of databases) and enter *computer* at the prompt. You may be given menus to narrow your search.

```
Please enter the scan category as you know it. (Type H for a list, or
B to backup.)

-> computer

   PRESS  TO SELECT

   1      Computer Products & Applications Scan
   2      Computer Science & Technology Scan
   3      Telecommunications Scan
   H      for Help,    C  for Commands

-> 2
```

Enter your search topic.

```
Type H for more help and examples.

Enter a  computer topic
(or type B to back up)

-> (ai or artificial intelligence or expert system/) and (defense or dod)

(AI OR ARTIFICIAL INTELLIGENCE OR EXPERT SYSTEM/) AND (DEFENSE OR DoD)
Correct ? (Yes/No) -> Y

                    **********
```

While the search is in progress, you will see status messages like the ones for searching a single database.

```
The scan is now in progress. Your query is being submitted to a selected
group of databases.

When the scan is completed, a results menu will display. This special
menu will show you which of the databases contains information on your
topic. To help you select the appropriate databases to search, the menu
will indicate the format of items in each database and the main source
of information, such as journals, books, or newspapers. You'll also be
able to see database descriptions by typing H. Further assistance will
be available from the results menu by typing 505 to access our online
reference support facility.

Note that database searches conducted from the scan results menu incur
normal search charges. The scan process may take a few minutes. The
message "Scanning, please wait..." will repeat until the scan is
completed.

Scanning, please wait...
Scanning, please wait...
Scanning, please wait...
Scanning, please wait...
Scanning, please wait...
Scanning, please wait...
Scanning, please wait...
Scanning, please wait...

Scan completed
Press return ->
```

When the search is completed, you will see a menu summarizing the number of records in each database. The first column shows the number to enter at the prompt if you want that item displayed. To search **Computer and Mathematics Search** which has 1 record on your topic, choose *2*.

```
Computer Science & Technology scan results for: (AI OR ARTIFICIAL
INTELLIGE...

PRESS TO SEARCH                          Results  Format     Source Type

  1   Books in Print.....................5  reference  books
  2   Computer & Mathematics Search.....1  reference  journals
  3   Dissertation Abstracts Online.....22 abstract   dissertations
  4   NTIS..............................191 abstract   gov't reports
      Buyer's Guide to Micro Software.....8 abstract   multiple sources
  5   *Compendex Plus...................96  abstract   journals
  6   Computer ASAP.....................473 full text journals
  7   Conference Papers Index...........3  reference  conf. paper
  8   Information Science Abstracts.....34 abstract   journals
  9   INSPEC (1983-to date).............112 abstract   journals
 10   INSPEC (1969-1982) ...............1  abstract   journals
      *Good choice for professional literature.
  A   ADDITIONAL CHOICES
  H   Database descriptions
  M   Main Menu
 SOS  Online assistance

-> 2
```

The search, display, and order of results is the same as with "***SearchMAESTRO*** chooses a Database".

When you have completed the search, you can select the same scan menu showing the number of records in each database and indicating those you have already searched.

ENTER A DATABASE NAME

This feature also does the searching for you but gives you the added control of being able to specify the name of the particular database that you want the system to search. If you are unsure of the exact name of a database, you can use the **Database Directory**, a listing of all online databases that the system can access. You can also enter a database name you think is correct. A list of databases with similar names will be provided if the one you entered is incorrect.

Database Directory

The Database Directory contains information about almost all the databases available through ***SearchMAESTRO***. The databases are organized into subject areas and grouped into major categories. To see the list of subject areas, enter *dir list* at any –> prompt.

```
-> dir list

Welcome to the directory of databases!

There are four ways to access this directory: by DATABASE NAME, by
ACCESSION NUMBER, by HOST, and by SUBJECTS CATEGORY.  You may access
the directory at any "->" prompt after leaving this instructional area.

To see a directory listing of a particular database, enter DIR followed
by the DATABASE NAME or ACCESSION NUMBER.  For example: DIR MAGAZINE ASAP
or DIR 1614.

To see a list of databases accessed through a particular HOST, enter DIR
followed by the host name.  For example: DIR ORBIT.
Host names are:

    BRS          DIALOG       NEWSNET       PROFILE       WATERLOW
    DATASTAR     G-CAM        ORBIT         QUESTEL       WILSON

To see the databases in one of the CATEGORIES below, enter DIR followed
by the category name.  For example: DIR ART (under ART, LIT.,
ENTERTAINMENT)

** Press ^C to stop the directory display and return to the previous
menu. **

Press (return) to continue...->


                    DATABASE DIRECTORY CATEGORIES              (page 1 of 3)

ART, LIT., ENTERTAINMENT      BUSINESS & INDUSTRY      LAW, PATENTS
Art                           Accounting               Law
Book Reviews                  Agriculture and Food     Patents
Directories or Publishing     Corporate Information    Trademarks
Film                          Economics
Humanities                    Employment
Literature                    Finance                  MEDICINE
Music                         Industry
Photography                   Insurance                Medicine
Television Radio              International Business   Allied Health
Theater                       International Trade      Pharmacology
                              Investment
                              Management
                              Marketing
                              Real Estate
                              Taxation

Press (return) to continue...->
```

Continue pressing <RETURN> to view the database directory categories. Choose the name of the subject area most relevant to your topic. In this example it is **computers**. To see an alphabetical listing of all these databases, enter ***dir computers*** at the –> prompt.

```
-> dir computers
```

One of the databases in the **computers** list is the **Applied Networks Report**. The first line of information about the database shows its name and corresponding number code. You can use either one to identify the database.

```
COMPUTER SCIENCE AND COMPUTERS

2653  APPLIED NETWORKS REPORT

Provides the most recent research and in-depth analysis of trends in
networking technologies and applications that are most useful for real
business solutions.

     Format:              full text
     Field Searching:     unavailable
     Time Span:           from 1989 to present
     Updating:            monthly
     Reprints:            unavailable
     Host:                NewsNet, Inc.

This is the first database in this category.
Press (return) to continue or B to back up ->
```

The **Database Directory** is also available in hard copy format. For copies contact:

Defense Technical Information Center
ATTN: DTIC-BLN
Cameron Station
Alexandria, Virginia 22304-6145
(703) 274-7791 or DSN 284-7791

You can also use the **Database Directory** to search a particular database that is listed in the directory.

Select *3* from the Main Menu and then enter either the database name or its number code. If you are unsure of the exact name, enter the name you believe is correct and a list will be provided if it is incorrect. In this example, you can use ***nasa software directory*** or ***1953***.

```
   PRESS  TO SELECT:

   1      SearchMAESTRO chooses a database.....Menu searching
   2      SearchMAESTRO scans a group of databases.....Menu searching
   3      Enter a database name.....Menu searching
   4      Enter a database name.....Common Command searching
   5      Instructions, Database directory
   6      NEW! This Month:  Database Updates
   H      for Help, C for Commands

-> 3

Please enter the database name as you know it.
(use B to back up)

-> nasa software directory
```

SearchMAESTRO first checks that you entered a valid database name and then prompts you to enter your search. The search, display, and order of results are exactly the same as with "***SearchMAESTRO* chooses a database**".

```
Searching....

Type H for search guide lines and examples.

Enter your subject terms.

-> ai or artificial intelligence or expert system/

Yes
AI OR ARTIFICIAL INTELLIGENCE on EXPERT SYSTEM/
Correct ? (Yes/No) -> y
```

DROLS and Other Government-Sponsored Databases

In addition to the available commercial databases, *SearchMAESTRO* also provides access to the DROLS databases and several other government-sponsored databases. Except for NTIS and Federal Research in Progress, they are not in the **Database Directory** or searchable through "Enter a database name".

To reach the menu of government databases, select "***SearchMAESTRO* chooses a database**", and then choose *2* (for "Government Research and Development"). You will receive a list of the available government databases.

```
  PRESS  TO SELECT

   1      SearchMAESTRO chooses a database.....Menu searching
   2      SearchMAESTRO scans a group of databases.....Menu searching
   3      Enter a database name.....Menu searching
   4      Enter a database name.....Common Command searching
   5      Instructions, Database directory
   6      NEW! This Month:  Database Updates
   H      for Help, C for Commands

-> 1


  PRESS  TO SELECT

   1      Subjects
   2      Government Research and Development
   H      for Help, C for Commands

-> 2


PRESS  TO SELECT

 1     Aerospace Database
 2     DROLS Technical Reports Database (requires DROLS Password)
 3     DROLS Work Units Database (requires DROLS password)
 4     Department of Energy (DOE) Database
 5     Federal Research in Progress
 6     National Technical Information Service (NTIS)
 7     Government Research and Development Scan (requires DROLS password)
 H     for Help, C for Commands

->
```

After selecting a database from this menu, you will see another menu with the fields (different types of information) which are searchable. Some fields may lead you to additional sub-menus. Follow the menus until you have entered your complete search.

Except for the DROLS databases, the search process is exactly the same as with the commercial databases. Option 7 scans all the government databases on the list. However, you can only use it if you are a registered DROLS user.

To search the two DROLS databases (options 2 and 3) you must also be a registered DROLS user. After you enter your search, ***SearchMAESTRO*** will prompt you for your DROLS sign-on code, password/NTIS deposit account number, and terminal ID. When ***SearchMAESTRO*** has used your DROLS account information to access the selected DROLS database, the rest of the process is the same as with the commercial databases.

COMMON COMMAND LANGUAGE

Common Command Language (CCL), (not to be confused with the DGIS CCL (Common Command Language)) provides ***SearchMAESTRO*** users with greater flexibility in tailoring search strategies. It is a command-driven system, based on international standards (ISO, 2nd draft proposal DP 8777), that provides more interaction with specific databases.

The following provides general instructions for using the ***SearchMAESTRO*** CCL.

Choose ***4*** (for "Enter a database name....Common Command Language). Enter either the database name or the number code. In this example, you can use **NTIS** or **1567** to search the National Technical Information Service.

```
PRESS  TO SELECT

 1     SearchMAESTRO chooses a database.....Menu searching
 2     SearchMAESTRO scans a group of databases.....Menu searching
 3     Enter a database name...Menu searching
 4     Enter a database name...Common Command searching
 5     Instructions, Database directory
 6     NEW! This Month:  Database Updates
 H     for Help, C for Commands

-> 4


Please enter the database name as you know it.
(Use B to back up.)

-> ntis
```

```
Searching

National Technical Information Service (NTIS) is copyrighted 1991 by
NTIS, Springfield, VA, and is available through Dialog Information
Services, Inc.

Relative cost per minute             : **
Relative cost per largest SHOW format: *

     Cost per minute          Cost per largest SHOW format

*    0.42 to 1.05        *    0.00 to 0.26
**   1.06 to 1.58        **   0.27 to 0.79
***  1.59 to 2.10        ***  0.80 to 3.68
**** 2.11 to 3.15        **** 3.69 to 26.25
```

Costs are database specific.

The following series of menus are provided to assist you in using Common Command Language and the information will differ with each database. Selection 1 provides a brief overview of CCL.

Enter ***info*** or ***h*** to get a help menu.

```
  PRESS  TO SELECT

  1      Introduction to Common Command Language
  2      List of INFO topics
  3      FIELDS in National Technical Information Service (NTIS)
  4      SHOW formats for National Technical Information Service (NTIS)
  5      Description of National Technical Information Service (NTIS)
  B      Backup to command prompt

Enter info or h to get a help menu.
--> 2
```

Select *2* from the help menu for a list of information topics for the selected database. The items with an asterisk are treated differently for each database host. It is recommended you read the help and examples for these topics if you are not familiar with the host.

```
                    HELP WITH DIALOG SEARCHING

INFO followed by any of the topics listed below, provides help and
examples for the selected topic.

 COMMANDS OTHER TOPICS

  BASE          *LIST          *AND           *OR
  COMMANDS      *MORE          *Basic-Index   *Parentheses
  DELETE        PHOTO          *Booleans      *Proximity
  *FIELDS       *REVIEW        *Command-stacking *Punctuation
  *FIND         SHOW           *Host          *Ranging
  FORMATS       STOP           *NOT           *Stop-words
  INFO          TOTAL          *Operators     *Truncation

For example: INFO FORMATS will provide help on using the FORMATS command.

*These items are treated differently for each host. It is recommended
that you read the help and examples for these topics.

Press (return) to continue-->
```

Select *3* from the help menu for a list of the fields you can use when searching the selected database. Enter a **field number** for additional help or press <RETURN> to return to the help menu.

```
Field Prefix Suffix Description and example                    Page 1 of 1

  1    AU          author (AU=JONA-LASINIO, G?)
  2    CS          corporate source (CS=AKADEMIYA !! NAUK)
  3    DT          document type (DT=PATENT)
  4    PY          publication year (PY=1987)
  5    RN          identification number (RN=RAC-CR-2)
  6    SH          section heading (SH=97K)
  7    SP          sponsoring organization (SP=NATIONAL !! SCIENCE !! FOUNDATION)
  8          AB    abstract (SLUDGE !! APPLICATION !! SYSTEMS/AB)
  9          DE    descriptor (REMOTE !! SENSING/DE)
  10         ID    identifier (IMMOBILIZED !! ENZYMES/ID)
  11         SH    section heading (ENERGY(f)FUELS/SH)
  12         TI    title (X !! RAY !! CRYSTALLOGRAPHY/TI)

Enter field number for help, (return) to backup: ->
```

Select *4* from the help menu for a list of show formats for the selected database.

```
   PRESS TO SELECT
    1    Introduction to Common Command Language
    2    List of INFO topics
    3    FIELDS in National Technical Information Service (NTIS)
    4    SHOW formats for National Technical Information Service (NTIS)
    5    Description of National Technical Information Service (NTIS)
    B    Backup to command prompt

 ->4
```

```
Available SHOW formats:

format 1:      Title and indexing
format 2:      Bibliographic citation
format 3:      Bibliographic citation and abstract
format 4:      Full record

Press (return) to continue-->
```

GETTING HELP

Registration............Defense Technical Information Center
Registration Branch.......................................(703) 274-7709
....DSN 284-7709

End User Support ..Defense Technical Information Center
Network Services Branch..............................(703) 274-7791
... .DSN 284-7791

Telecommunications
Problems ....Telebase Customer Service 1 (800) 220-7616

ON-LINE HELP MENUS

Help menus are readily available. Most menus have a help option that can provide you with detailed information about the other options on the menu.

SOS

SOS is readily available when you need online human assistance. This command initiates a conversation with the MAESTRO support staff, and your terminal screen becomes the background for a written dialogue used to communicate your problem. To use it, type *sos* at the Main Menu.

```
Logon to SearchMAESTRO complete.
* * * * * * * * * * * * * *   w e l c o m e   t o   * * * * * * * * * * * *
*                         S e a r c h M A E S T R O                         *
*---------------------------------------------------------------------------*
* ******************************          *          ---------------
* *                            *        * *          \\\\\\\\\\\\\\\
* *   DoD Gateway Info System  *       *   *         ---------------
* *   Defense Tech Info Center *  * * * * * * * * *  \\\\\\\\\\\\\\\
* *                            *     * *     * *     ---------------
* *(c) 1992 Telebase Systems Inc*   *   * *   *      \\\\\\\\\\\\\\\
* *  U.S. Patent No. 4,774,655 *   * *       * *     ---------------
* *The Knowledge Gateway (R) CO *  *           *     \\\\\\\\\\\\\\\
* ******************************                     ---------------
*---------------------------------------------------------------------------*
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
*   For information call DTIC  (703) 274-3848 and ask for MAESTRO          *
*                                                                          *
*   To contact DTIC/DROLS SOS, Call (703) 274-7791 M-F 8AM-4PM EST         *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
*SearchMAESTRO is an easy-to-use menu-driven DoD service to help get your*
*information from 800+ databases and vendor systems in a uniform, global *
*manner.  If you are a DROLS registered user, DROLS is included.          *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
```

The General ***SOS*** staff are search experts at Telebase, Inc. with extensive knowledge of the ***SearchMAESTRO*** system and the over 850 available databases. If the General ***SOS*** is not available, you can send a message at the prompt provided. The Telebase staff will respond by phone or letter. For DROLS SOS call (703) 274-7791, M-F 8 am-4 pm est. or leave message on 1-800-225-DTIC (3842).

BASIC COMMANDS

Although most of the time you will be moving around in ***SearchMAESTRO*** by entering a number corresponding to a menu option, there are also several different types of commands that can be entered (in either upper case or lower case) at almost any menu prompt.

```
Move around in menus

    m               return to main menu
    b               backup one menu
    l               logout from Sprintnet or Tymnet access
    <ESC><CTRL>d    logout from DGIS access

Help    (see sections "Help" and "SOS")

    h               help on current menu or prompt
    sos             online human assistance

Scan searching      (see section "An Example Using
                    SearchMAESTRO scans a group of databases")

    scan list       list of scan names
    scan name       begin specified scan

Database Directory  (see section "Directory of Databases")

    dir list        list of database categories
    dir name        list of databases within specified category

Search results display

    /print          continuous display
    /crt            prompts for <RETURN> every 22 lines (default)
    /video          same as /crt, clears screen between returns
    /vt100          same as /video for vt100 terminals

    ^s              stop display
    ^q              resume display
    ^c              stop display and return to prompt
    ^t              scrolls text

    ("/" is slash character; " ^ " represents the control key)
```

DEVELOPING A SEARCH STRATEGY

To effectively use ***SearchMAESTRO***, you need to learn a little about database searching. ***SearchMAESTRO*** will guide you through much of your search, but success depends upon the thinking you have done in advance. In most databases, you get a menu of options that will help you zero in on your topic. At some point, however, you type in information that specifically identifies your topic. To type in your search, you need to know just what you are interested in finding out and how to ask the computer to look for it.

Know the Question

The way to get information from ***SearchMAESTRO*** is very much like getting information from a printed source. First, you must define the question. Knowing just what you want is important. Clearly define the question BEFORE searching. Use your reference interview skills and your intuition.

Search Strategy

Once you have identified the question, you will need to set up your words in a pattern that ***SearchMAESTRO*** can understand. Essentially, online searching is asking the computer to look for the occurrence of words or word groups. You type in key words, connected by simple searching terms, and the computer looks through all the records in the file to see where the words you requested appear.

Good searching is finding the right balance between asking for too many specific terms and asking for too few to identify what you want. If you use too many terms to specify what you are interested in (and link them all with ANDs), you run the risk of finding nothing, even though there may be information there. If you use too few terms, you are likely to pull up too much information, or worse yet, unrelated information. Your search strategy is limited to 240 characters. Menu selections are also available to narrow the search.

Knowing what words to ask the computer to look for is the key to using ***SearchMAESTRO***. Just as the query, **I want information on Africa** brings many possible printed sources to mind, imagine how many times the computer might find the key word **Africa** on its own, without qualifiers in a given database. Identify all the vital terms that describe your question. For example, I want to find information on how Reagan dealt with issues related to the famine in Ethiopia when he was president narrows this question significantly. The key terms are now **Reagan** and **famine** and **Ethiopia**.

Connect Subjects with AND

To let ***SearchMAESTRO*** know that you want to find articles with all the terms you have selected, join the terms with AND:

Term 1 AND Term 2

SearchMAESTRO will retrieve articles that include both words. Using the previous example, at the ***SearchMAESTRO*** prompt you could type in:

-> REAGAN AND FAMINE AND ETHIOPIA

Connect Synonyms with OR

However, if you were to do this search, you would miss articles that referred to REAGAN and DROUGHT in AFRICA. You can use another OR to include synonyms.

Think of all the synonyms that can be used to describe your subject. Synonyms play a large part in retrieving good results. Pay special attention to correct spellings. Foreign spellings are important to remember. You will need to know both the acronym and the full name of abbreviated items.

Term 1 OR Term 2

SearchMAESTRO will retrieve all the articles that contain at least one of these terms. The previous example could benefit from the use of OR by including **drought** and **hunger** in the search statement. You may want to widen the geographic area as well. Using synonyms and other qualifiers ensures that you retrieve articles that use different words to say the same thing.

It is necessary to put parentheses around groups of synonyms that are connected by OR if you are going to combine the synonyms with another concept by using AND. Thus our search phrase now looks like this:

- > REAGAN AND (FAMINE OR HUNGER OR DROUGHT) AND (ETHIOPIA OR AFRICA)

Truncation Picks up Plural Endings or Different Forms of a Word

Use a slash mark / as a wild card at the end of the root of a word to indicate that you want the computer to retrieve all possible word endings. If you want the computer to pick up the word AFRICA as well as the words AFRICAN and AFRICANS, use AFRICA/ to get both endings. Now, our search phrase, in its final form, looks like this:

- > REAGAN AND (FAMINE OR HUNG/ OR DROUGHT/) AND (ETHIOPIA/ OR AFRICA/)

Using the slash to truncate words is very important. Without the slash the computer will only look for the exact form of the word as you typed it and ignore the plural or the past tense. But be careful. If you use the slash after a short word, like CAT/, for example, you will not only retrieve CAT and CATS, but also CATALYZE, CATATONIC, CATAPULT... and that would be a catastrophy! In such instances, it would be better to simply ask for the two variations that you want: cat or cats.

Write Down Your Search Strategy

Have the strategy laid out before you go online. Write down the concepts, connected by AND, and the synonyms, grouped in parentheses connected by OR. Check each term and decide if it is necessary to use truncation, then locate the right spot for the slash. Check the spelling of all names, places, technical terms, and foreign words. Being prepared before you go online will make using ***SearchMAESTRO*** even easier and more cost effective.

DOWNLOADING RESULTS

Use one of the following procedures to download search results into a file. Start the procedure just before displaying a result. Everything displayed after issuing the download procedure will be captured in the designated file.

TO DGIS

Press ***ESC*** and then ***<CTRL>A***

Enter a filename

Start display

To stop download; press ***ESC*** and then ***<CTRL>A***

TO PC/MAINFRAME

Procedures depend on your software requirements. Review your communications software documentation or seek assistance from your in-house computer specialists.

SUMMARY

SearchMAESTRO offers a wide variety of both commercial and government-sponsored databases covering many diverse subject areas.

If you are an inexperienced searcher, ***"SearchMAESTRO*** chooses a database," ***"SearchMAESTRO*** scans a group of databases," and the **Database Directory** will be valuable tools for learning about the databases in your particular field of interest. The online help for developing your search topic, as well as the human assistance available through **SOS**, will provide guidance in learning how to formulate your search questions.

As you become more experienced in doing searches in a particular subject area, you will probably use "Enter database name" and go directly to a specified database. The scan feature is very valuable for providing statistics on the amount of information on a topic that can be found in a group of databases.

SearchMAESTRO *is* an evolving system, and you can expect new databases and new features in the future.

CHAPTER 13 - DGIS DIRECTORY OF RESOURCES

This is a future module for the Department of Defense Gateway Information System (DGIS). The directory will provide information on DOD-sponsored databases and referral centers to include research and development, acquisitions, planning and management data.

APPENDIX A - LOGIN AND LOGOUT INSTRUCTIONS

DGIS LOGIN INSTRUCTIONS

Detailed instructions for using the various options for gaining access to the DGIS computer are given on the following pages. The steps you need to take to use the following telecommunications capabilities are included:

- Commercial telephone lines (Direct Dial)
- TYMNET

DIRECT DIAL ACCESS INSTRUCTIONS

Note: All user input should be followed by a <RETURN>.

- Dial the DGIS direct-access number, 703-274-0825. (No hyphens are necessary when entering this number on your keyboard)
- Once you are sure that you are connected (you will have some sort of signal from your modem), enter a <RETURN>. You will see the following menu:

```
Welcome to your Communications Server
        ** If you require assistance, please call 1-800-225-DTIC (3842)
        ** For Search Strategy assistance:              - Press 3 & 1
        ** For Telecommunications assistance/problems: - Press 3 & 3

** If you have ANY doubts, choose menu option 1 **
Choice  System Name  System          Application(s)
------  -----------  ------          --------------
  1       dgis       SUN 670         DGIS/Gateway Machine
  2       dticg1     Gould 9050      DTIC CARES (DMINS) / Qoffice
  3       dev        VAX 11/780      Development/Beta machine
  4       dmso       Sun SPARC       M & S Information System
  5       dlag1      Gould           DLA DMINS / Qoffice
  6       colan                      CoLan Access
  7       asn        SUN SPARC       Aoquistion Support Computer

  h       HELP
  l       LOGOUT

Type <control>^ to disconnect from any host and return to menu
Selection? 1
```

Enter *1* to access DGIS

```
Connecting... session 1 - connected to pr1
Enter  1  to access DGIS. You will be prompted for your DGIS login,
DGIS password, and terminal type.


SunOS (Unix)
login:
Password:
Last login: Thu Apr 2813:39:38 from 131.84.50.91
You have mail.
TERM= (vt100)
Hit <RETURN>
```

- At the login prompt: enter your DGIS login name. Be sure to use only lower case letters.
- At the password prompt: enter your DGIS password. The password will not display.
- At the TERM= prompt, enter <RETURN> for the default type shown on your screen or enter a terminal type from Appendix B, "Terminal Types List". You will then see the DGIS Main Menu.

TYMNET ACCESS INSTRUCTIONS

Note: All user input should be followed by a <RETURN> unless otherwise noted.

- Dial local TYMNET number. To find local TYMNET number dial (800) 336-0149.
- Once you are sure you are connected (you will have some sort of signal from your modem), enter a <RETURN>.
- At Terminal Identifier prompt: enter a (with no <RETURN>. (This message may appear as garbled letters, enter "a" and the letters will stop printing.)
- At the please log in prompt: enter **dgis** (DGIS TYMNET address). If you mistype the address, you will be reprompted, but the new prompt will be: error, type user name.
- At the password prompt: enter **gateway** (DGIS TYMNET password). The password will not display. You will then see the following menu:

```
Welcome to your Communications Server
        ** If you require assistance, please call 1-800-225-DTIC (3842)
        ** For Search Strategy assistance:              - Press 3 & 1
        ** For Telecommunications assistance/problems: - Press 3 & 3

** If you have ANY doubts, choose menu option 1 **
Choice  System Name  System          Application(s)
------  -----------  ------          --------------
  1       dgis       SUN 670         DGIS/Gateway Machine
  4       dtic91     Gould 9050      DTIC CARES (DMINS) / Coffice
  5       dev        VAX 11/780      Development/Beta machine
  6       dmso       Sun SPARC       M & S Information System
  5       dlag1      Gould           DLA DMINS / Coffice
  6       colan                      CoLan Access
  7       asc        SUN SPARC       Acquistion Support Computer

  h       HELP
  l       LOGOUT

Type <control>^ to disconnect from any host and return to menu
Selection? 1


Enter 1 to access DGIS. You will be prompted for your DGIS login, DGIS
password, and terminal type:

login:
Password: Last login: Wed Apr 28 13:39:38 from 131.84.50.91
SunOS Release 4.1.3 (GENERIC-XBOX) #2: Fri Apr 2 14:26:40 EST 1993
You have mail.
TERM= vt100
Hit <RETURN>
```

- At the login prompt: enter your DGIS login name. Be sure to use only lower case letters.
- At the password prompt: enter your DGIS password. The password will not display.
- At the TERM= prompt: enter a <RETURN> for the default type or enter a terminal type from Appendix B "Terminal Types List". You will then see the DGIS Main Menu.

DGIS Logout Instructions Each time you finish a DGIS session, be sure to logout.

Enter a menu number, a command, "b" to backup, "t" for top or "e" to end: * At the General DGIS prompt, enter e.

You will return to the main menu shown in the login instructions. Enter the letter l (for logout) and you will be completely disconnected.

INTERNET ACCESS INSTRUCTIUONS

To access DGIS through Internet enter the IP address *131.84.1.2* or type *dgis.dtic.dla.mil*.

APPENDIX B - TERMINAL ABBREVIATIONS AND SYNONYMS

ADM 2 (Lear Siegler) adm2
ADM 3 (Lear Siegler) adm3 3
ADM 3a (Lear Siegler) adm3a 3a
ADM 3a+ (Lear Siegler) ..... adm3a+ 3a+
ADM 5 (Lear Siegler) adm5 5
ADM 20 (Lear Siegler) adm20
ADM 22 (Lear Siegler) adm22
ADM 31 (Lear Siegler) adm31 31
ADM 42 (Lear Siegler) adm42 42
AED 512 ..... aed AED aed512 AED512
Adds Consul 980 ..... a980
Adds Regent 100 ..... regent100
Adds Regent 20 ..... regent20
Adds Regent 25 ..... regent25
Adds Regent 40 ..... regent40
Adds Regent 40+ ..... regent40+
Adds Regent 60 ..... regent60 regent200
Adds Regent 60 no arrow keys regent60na
Adds Regent series ..... regent
Adds Viewpoint ..... viewpoint addsviewpoint
Adds Viewpoint60 ..... viewpt60 viewpoint60 addsviewpoint60
Addrinfo ..... addrinfo
Agiles (SRI) ..... agile agiles
Ampex Dialogue 80 ..... ampex d80 dialogue dialogue80
Amtek Bus. Machines 80 ..... abm80
AJ ..... aj830 aj832 aj
AJ 510 ..... aj510 AJ510
AJ 510 w/no arrow keys aj510-nk AJ510-nk
AJ 510 w/arrow keys aj510-ak AJ510-ak
Ann Arbor 4080 ..... aa annarbor 4080A
AAA-29 no padding psl aaa-29-np
AAA (internal) ..... aaa-unk
AAA/18 lines aaa-18
AAA/20 lines aaa-20
AAA/22 lines aaa-22
AAA/24 lines aaa-24
AAA/26 lines aaa-26
AAA/28 lines aaa-28
AAA/30 lines ..... aaa aaa-30 ambas ambassador
AAA/36 lines aaa-36
AAA/40 lines aaa-40
AAA/48 lines aaa-48

AAA/60 lines aaa-60
AAA Unknown w/status ..... aaa-unk-s
AAA/18 lines+sl aaa-18-s
AAA/20 lines+sl aaa-20-s
AAA/22 lines+sl aaa-22-s
AAA/24 lines+sl aaa-24-s
AAA/26 lines+sl aaa-26-s
AAA/28 lines+sl aaa-28-s
AAA/30 lines+sl aaa-30-s
AAA/36 lines+sl aaa-36-s
AAA/40 lines+sl aaa-40-s
AAA/48 lines+sl aaa-48-s
AAA/60 lines+sl aaa-60-s
AAA/18 lines+rv aaa-18-rv
AAA/20 lines+rv aaa-20-rv
AAA/22 lines+rv aaa-22-rv
AAA/24 lines+rv aaa-24-rv
AAA/26 lines+rv aaa-26-rv
AAA/28 lines+rv aaa-28-rv
AAA/30 lines+rv aaa-30-rv
AAA/36 lines+rv aaa-36-rv
AAA/40 lines+rv aaa-40-rv
AAA/48 lines+rv aaa-48-rv
AAA/60 lines+rv aaa-60-rv
AAA/18 lines+sl+rv aaa-18-rv-s
AAA/20 lines+sl+rv aaa-20-rv-s
AAA/22 lines+sl+rv aaa-22-rv-s
AAA/24 lines+sl+rv aaa-24-rv-s
AAA/26 lines+sl+rv aaa-26-rv-s
AAA/28 lines+sl+rv aaa-28-rv-s
AAA/30 lines+sl+rv aaa-30-rv-s
AAA/36 lines+sl+rv aaa-36-rv-s
AAA/40 lines+sl+rv aaa-40-rv-s
AAA/48 lines+sl+rv aaa-48-rv-s
AAA/60 lines+sl+rv aaa-60-rv-s
AAA/24 lines aaa-24-ctxt
AAA/24+rv aaa-24-rv-ctxt
AAA Hairy ..... aaa-s-ctxt aaa-30-s-ctxt
AAA Hairy ..... aaa-s-rv-ctxt aaa-30-s-rv-ctxt
AAA/30 lines ..... aaa-ctxt aaa-30-ctxt
AAA/30 lines ..... aaa-rv-ctxt aaa-30-rv-ctxt
AAA/30 destruc. backsp. ..... aaa-db
Apollo ..... apollo
Apple ii plus ..... appleII
Apple II w/smarterm 80 ..... c apple-80
Ansi ..... ansi
Attache Otrona ..... attache
BBN BitGraph terminal ..... bg bitgraph

Beehive ATL-008 100 mode ..... beehive
Beehive super bee ..... sb1 superbee superb
BeehiveIIIm bh3m
Bell Labs Blit ..... blit jerq blit-pb
Bell Labs Blit Layer ..... blitlayer layer vitty
Bill Croft homebrew ..... bc
Cad68 mode size 3 char. cad68-3 cgc3
Cad68 mode size 2 char. cad68-2 cgc2
CB UNIX Virtual Terminal virtual ..... VIRTUAL
CDI ..... cdi cdi1203
Cita ..... cita
Cit 101 ..... cit101
Cit 101b cit101b
Citoh 80 ..... cit80
Citoh fast vt100 ..... citc
Columbus tty blit ..... cbblit
Compucolor ..... 8001 ISC8001 compucolor intecolor
Compucolor 2 ..... compucolor2 compucolorII
Concept avt (HDS) ..... avt
Concept avt 4p sysline avt-4p-s
Concept 100 ..... c100 concept c104 c100-4p concept100
Concept 100-rv-pp c100-rv-pp c100-rv-4p-pp concept100-rv-pp c100rv4ppp
Concept 100 no arrows c100-rv-na c100-rv-4p-na concept100-rv-na c100rv4pna
Concept 100 rv c100-rv c100-rv-4p concept100-rv c100rv4p c100rv
Concept 100 Slow ..... c100-s concept-s conept100-s
Concept 100 Slow rv ..... c100-rv-s concept-rv-s concept100-rv-s c100rvs
Concept 108 w/4 pages c108-4p concept108-4p
Concept 108 w/8 pages c108 c108-8p concept108-8p
Concept 108 w/8 p rv c108-rv-8p concept108-rv-8p
Concept 108 w/4 p rv c108-rv-rp concept108-rv-4p
Concept 108 w/8 p no arrows c108-na c108-na-8p concept108-na-8p
Concept 108 w/8 p no ar rv c108-rv-na c108-rv-na-8p
Concept 108 w/8 p wide mode c108-w c108-w-8p concept108-w-8p
Control Data cdc456
Control Data 456tst cdc456tst
Control Data 721 ..... cdc721
Control Data 721-na cdc721 cdc721-na
Cybernex XL-83 ..... xl83
Cybernex mdl-110 ..... mdl110
DEC VT100 ..... vt100 vt100-am

DEC GT 40 ..... gt40
DEC GT 42 ..... gt42
DEC VT 50 ..... vt50
DEC VT 50h vt50h
DEV VT 52 ..... vt52
DEC VT 100 st l top vt100-s
DEC VT 100 st l bottom vt100-s-bot
DEC VT 100 132 col/14 l w/o adv v opt. vt100-nav
DEC VT 100 132 col w/adv v opt. vt100-w
DEC VT 100 132 col w/adv v no am vt100-w-nam
DEC VT 125 ..... vt125 vt125-am
DEC VT 132 ..... vt132
DEC VT 200 ..... vt200 vt200
DEC gigi ..... gigi
DG Dasher 400/450 ..... dg dasher dg400 dg450
DG Dasher D400/D450 ..... dg-w dasher-w dg400-w dg450-w
DG 6053 ..... dg dg6053
Datagraphix 132a ..... d132 datagraphix
Datamedia 1520 ..... dm1520 dm dm1521 1521 1520
Datamedia 2500 ..... dm2500 datamedia2500 2500
Datamedia 3025a dm3025
Datamedia 3045a 3045 dm3045
Datamedia 80 ..... dt80 dmdt80 dm80
Datamedia 80 132 char. dt80w dmdt80w dm80w
Datapoint 3360 ..... datapoint dp3 dp3360
Decwriter I dw1
Decwriter II dw2
Decwriter III dw3 la120
Decwriter IV dw4
Delta data 5000 ..... delta dd5000
Diablo w/8 col. 1620-m8 1640-m8
Diablo 1620 ..... 1620 1640 450
Dialup ..... du dialup
Digilog 333 ..... digilog 333
Direct 800/A d800
DTC 300s dtc300s 300 300s
DTC 382 ..... dtc ps dtc382 382
E108-8p e108-8p
E108-4p e108-4p
EX3000 ..... ex3000
Execuport 4000 ..... ep40 ep4000
Execuport 4080 ..... ep48 ep4080
Exidy sorcerer dm2500 ..... exidy exidy2500
Exidy smart ..... sexidy
Falco ..... falco ts1 ts-1
Falco w/paging opt ..... falco-p falco ts-1sp
Fortune ..... fos fortune
Freedom100 no padding ..... f100 freedom100 freedom

Freedom100 rv at 1200 ..... f100-rv freedom100-rv freedom-rv
Freedom100 9600 vi/1200 ..... f100-v freedom100-v freedom-v
Freedom100 rv 9600 vi ..... f100-v-rv freedom100-v-rv freedom-v-rv
Freedom100 9600 emacs ..... f100-e freedom100-e freedom-e
Freedom100 rv 9600 emacs f100-e-rv ..... freedom100-e-rv freedom-e-rv
GE terminet 1200 ..... terminet1200 terminet300 tn1200 tn300 terminet
General Terminal 100A i100 gt100 gt100a
Graphon 140 ..... go140 go-140
GSI ..... gsi
Hazeltine 1000 ..... h1000
Hazeltine 1420 ..... h1420
Hazeltine 1500 ..... h1500
Hazeltine 1510 ..... h1510
Hazeltine 1520 ..... h1520
Hazeltine 1552 ..... h1552
Hazeltine 1552 rv h1552rv
Hazeltine 2000 ..... h2000
Hazeltine esprit ..... esprit
Heathkit w/keypad shift/undersc. cursor h19-us h19us
Heathkit w/underscore cursor h19-u h19u
Heathkit w/block cursor h19-g h19g
Heathkit h19 for emacs h19-e h19e
Heathkit h19 ..... h19 heath h19-b heathkit heath-19 z19 zenith
Heathkit h19 ansi mode ..... h19-a h19a heath-ansi heathkit-a
Heathkit w/keypad shift h19-bs h19bs
Hewlett Packard ..... hp
Hewlett Packard 110 por. hp110
Hewlett Packard 150 ..... hp150
Hewlett Packard 2640x 2640 hp2640a 2640a 2640b hp2640b 2644a hp2644a
Hewlett Packard 2621 strap A set 2621-ba
Hewlett Packard 2621 48l 2621-48
Hewlett Packard hp2621 w/labels hp2621wl 2621wl 2621-wl hp2621-wl
Hewlett Packard hp2621 w/no tabs hp2621-nt 2621nt 2621-nt hp2621nt
Hewlett Packard hp2621 no labels 2621-nl hp2621nl 262nl hp2621-nl
Hewlett Packard hp2621 w45 keyboard 2621k45 hp2621k45 k45 2622 hp2622
Hewlett Packard hp2621 2621 hp2621 hp2621 ..... a hp2621p 2621a 2621p 2621-pb hp2621-fl
Hewlett Packard hp2626 ..... hp2626 hp2626a hp2626p 2626 2626a 2626p
Hewlett Packard hp2640 ..... a 2640 hp2640a 2640a

Hewlett Packard hp264x series 2640b hp2640b 2644a hp2644a
Hewlett Packard hp2645 w/no padding hp2645-np
Hewlett Packard hp2645 ..... hp2645 2645 hp45
Hewlett Packard hp2647a graphics term. hp2647 hp2647a 2647a 2647
Hewlett Packard hp2648 ..... hp2648 hp2648a 2648a 2648
IBM 3101-10 ..... ibm ibm3101 3101 i3101
IBM PC QNX ..... ibmQNX QNX qnx qnx1.0
IBM PC QNX 1.14 or up qnx114 qnx1.14 QNX1.14
IBM PC QNX 1.10 or up qnx11 qnx1.1 QNX1.1 QNX11
Infoton 400 ..... i400 400
Infotonkas ..... infotonkas
Interactive Systems ..... intext (modified owl 1200)
Intertec Data Systems Intertube 2 ..... it2 intertube2
Kaypro ..... kaypro
Kimtron ABM 85 ..... abm85
Kimtron ABM 85H 85H mod 85h 85H abm85h
Kimtron ABM 85H 920E mod 85e 85E abm85e
Kimtron ABM 85H, firmware rev. o85h oabm85h
KLC ..... carlock
Lear Siegler ADM series ..... adm3a 3a adm31 31 adm2 adm3 3 adm42 42 adm5 adm3a+ 3a+
Macintosh versaterm ..... versaterm mac-vt mac-vt100
Masscomp2 ..... masscomp2
Masscomp1 ..... masscomp1
Masscomp ..... masscomp
Micro bee series ..... microbee microbee
Microterm act iv ..... microterm act4
Microterm act v microterm5 act5
Microterm mime2a iq120 ..... mime2a-s
Microterm mime2a vt52 ..... mime2a mime2a-v
Microterm mime1 ..... mm mime mime1 mime2 mime1 mime11
Microterm mime1 em 3a mime-3ax
Microterm mime1 emu.3a mime3a
Microterm mime1 full ..... bri mime-fb
Microterm mime1 half ..... bri mime-hb
Multiwriter 2 ..... mw2
NEC 5520 ..... 5520 nec spinwriter
Netronics ..... netx
NUC homebrew ..... nucterm rayterm
Omron 8025AG ..... omron
Osborne Exec. ..... os osexec exec osborne
Osborne Exec. ..... osexec-vb exec-vb
Osborne Exec-na ..... os-na osexec-na exec-na osborne-na
P19 ..... p19
Perkin Elmer 1100 ..... fox
Perkin Elmer 1200 ..... owl

Perkin Elmer 550 ..... pe pe550 bantam
Picture system 300 ..... ps300
Plasma panel ..... plasma
Pseudo teletype .... pty
Qume 102 ..... q102 qume102
Qume Sprint 5 ..... qume5 qume Qume Sprint 5
Radio Shack trs-80 I trs80 trs-80
Radio Schack II P&T CP/M ..... trs2 trsII trs80II
Skinny Act5 ..... act5s
Sol ..... sol
Soroc 120 ..... soroc
Southwest Tech Products ..... swtp ct82
Sun Micro ..... sun
Sun Micro for emacs ..... sun-e
Superbee sb2 sb3
Superbee w/ins. char. ..... superbeeic
TAB 132/15 ..... tab132 tab tab132/15
TAB 132w tab132w
TAB 132rv tab132rv
TAB 132wrv tab132wrv
Tek ..... tec
Tek Scope tec400
Tek 500 ..... tec500
Tektronix 4012 ..... tek tek4012 4012
Tektronix 4013 ..... tek4013 4013
Tektronix 4014 ..... tek4014 4014
Tektronix 4014 sm. font tek4014-sm 4014-sm
Tektronix 4015 ..... tek4015 4015
Tektronix 4015 sm. font tek4015-sm 4015-sm
Tektronix 4023 ..... tek4023 4023 tex
Tektronix 4024/4025/
4027 4025 4027 4024 tek4025 tek4027 .... tek4024 4025cu 4027cu
Tektronix 4025 17 l w 4025-17 4027-17
Tektronix 4025 17 l w in workspace 4025-17ws 4027-17ws
Tektronix 4025 w/! 4025ex 4026ex
Tektronix 4025 curses & rogue 4025-cr
Tektronix 4105 ..... tek4105 4105
Tektronix 4105o 4105o
Tektronix 4105rogue tek4105rogue 4105rogue
Tektronix 4105wang tek4105wang 4105wang
Tektronix 4105co tek4105co 4105co
Tektronix 4110 series 4112 4113 4114 tek4112
Tektronix 4112 not in dialog 4112-nd
Tektronix 4112 in 5 l dialog 4112-5
Tektronix 4113 color graphics 4113 tek4113
Tektronix 4113 cg 34 line dialog 4113-34 tek4113-34
Tektronix 4113 cg no dialog 4113-nd tek4113-nd
Teleray 10 special t10

Teleray 1061 ..... t1061
Teleray 1601 w/fast PROM t1061f
Teleray 3700 ..... t3700 teleray
Teleray 3800 series t3800
Teletec Datascreen ..... teletec
Teletype Dataspeed 33 ..... 33 tty33 tty
Teletype Dataspeed 37 ..... 37 tty37
Teletype Dataspeed 40/
2 40 tty40 ds40 ds40/2 ds40-2 ..... dataspeed40
Teletype Dataspeed 43 ..... 43 tty43
Teletype Dataspeed 4424 4424 ..... tty4424
Televideo (old) tvi912 912 920 tvi920
Televideo w/2 pages tvi912-2p tvi920-2p 912-2p 920-2p tvi-2p
Televideo 912 ..... 912b 912c tvi912b tvi912c tvi
Televideo 920 ..... 920b 920c tvi920b tvi920c tvi
Televideo 925 ..... tvi925 925
Televideo 925 ..... 925a tvi925a
Televideo 950 ..... tvi950 950 televideo950
Televideo 950 w/alt pa tvi950-ap
Televideo 950 bare no is tvi950-b
Televideo 950 w/no st out tvi940-ns
Televideo 950 w/2 pa tvi950-2p 950-2p
Televideo 950 w/4 pa tvi950-4p 950-4p
Televideo 950 rv tvi950-rv 950-rv
Televideo 950 rv w/2 pa tvi950-rv-2p 950-rv-2p
Televideo 950 rv w/4 pa tvi950-rv-4p 950-rv-4p
Televideo 950 stripped tvi940-s 950-s
Terak ..... terak (emulating Datamedia 1520)
Texas Instrument ..... ti ti700 ti733 735 ti735
Texas Instrument 745 ..... ti745 745 743
Texas Insturment omni ti800
TRS-80 Mo. 100 no labels trs100-nl trsmodel100-nl model100-nl
TRS-80 Mo. 100 Portable trs100-wl trsmodel100-wl model100-wl
TRS-80 Mo. 100 Portable trs100 trsmodel100 model100
Ubellchar ..... ubell
Unknown ..... dumb un unknown
Visual 50 ..... v50
Visual 200 w/func. keys vi200 vis200
Visual 200 rv ins. char. vi200-rv-ic
Visual 200 no func. keys vi200-f
Visual 200 rv vi200-rv
Visual 200 insert char. vi200-ic
Volker-craig 303 ..... vc303 vc103 vc203
Volker-craig 303a vc303a vc403a
Volker-craig 404 ..... vc404

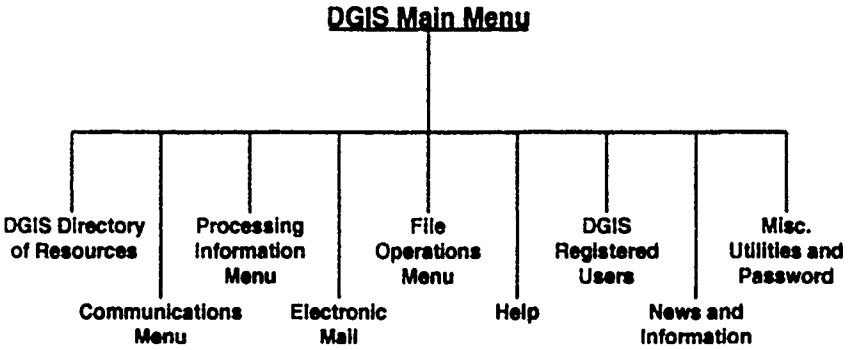
Volker-craig 404 w/standout vc404-s
Volker-craig 404 w/no arrow keys vc404-na
Volker-craig 404 w/standour & no arrow vc404-s-na
VT100 no padding vt100-np
VT100 w/no am vt100-nam
Williams TTY ..... ttyWilliams
Wind ..... wind
Wind 16 ..... wind16
Wind 40 ..... wind40
Wind 50 ..... wind50
Wyse 75 ..... wy75 wy-75 wyse-75
Wyse ..... wyse
Xerox x1720 x1700 1700 x1750
Xitex sct-100 ..... xitex
Zenith-29 ..... h29 heath-29 z29
Zenith 29 hacked f/emacs z29-e
Zentec 30 ..... zen30 z30

```
What type of terminal are you using?
Hit [RETURN] for default of "vt100", ? for help:
```

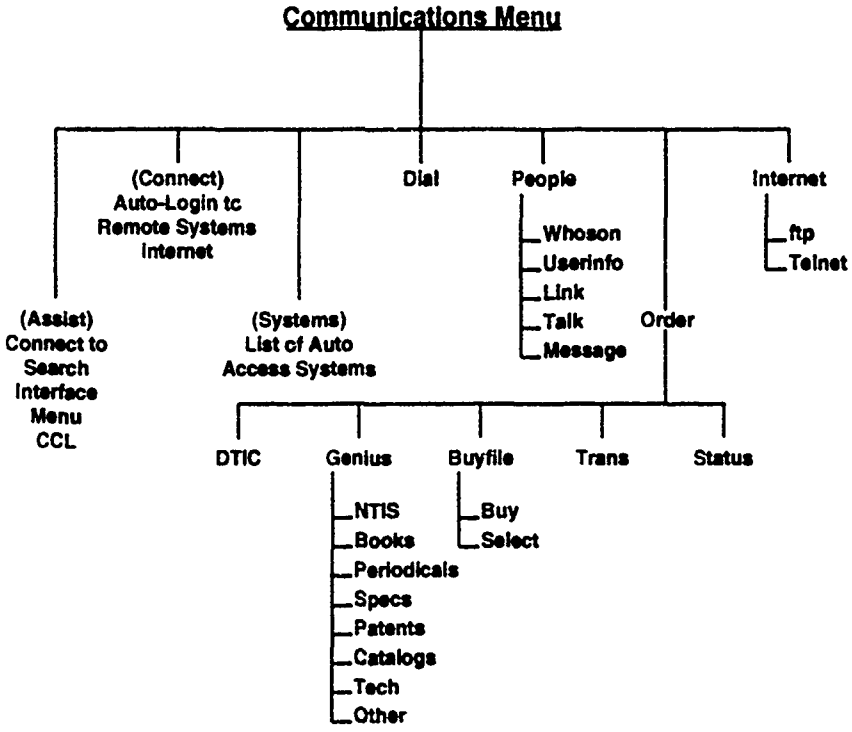
APPENDIX C - DGIS MENU PATH DIAGRAMS

The diagrams on the following pages illustrate the hierarchical structure of the DGIS menu system and include all the levels of submenus.

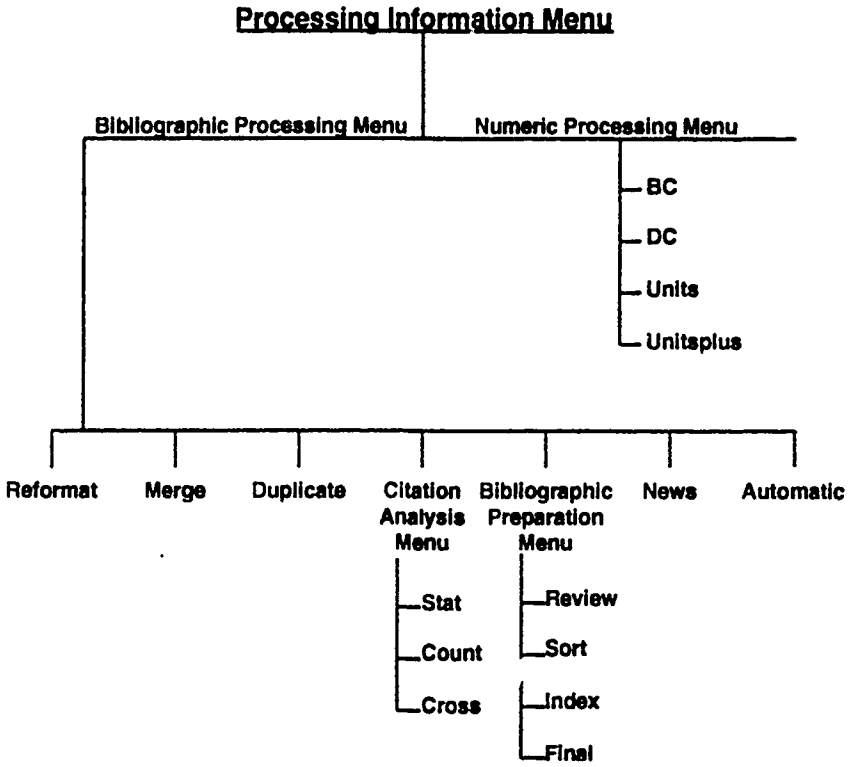
DGIS MAIN MENU



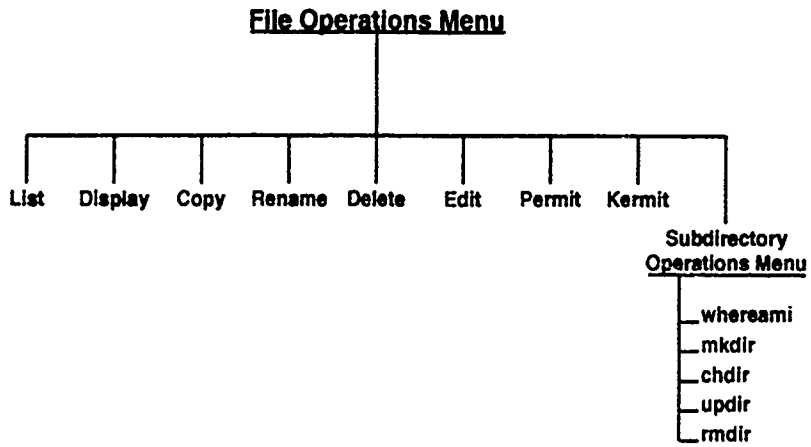
COMMUNICATIONS MENU



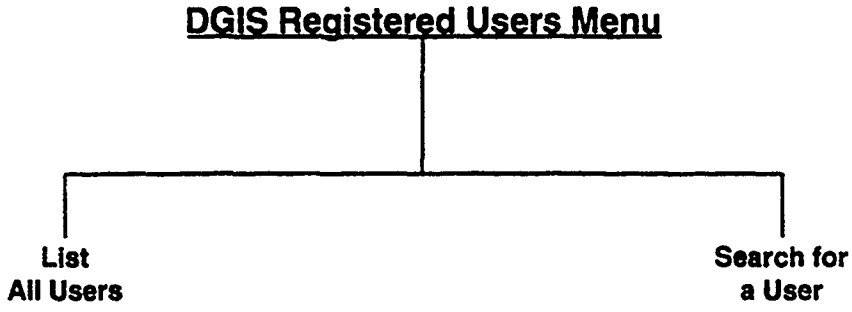
PROCESSING INFORMATION MENU



FILE OPERATIONS MENU



DGIS REGISTERED USERS MENU



APPENDIX D - DGIS COMMAND SUMMARY

COMMANDS

All DGIS commands also appear as choices on the various DGIS menus. The commands can be typed in at any DGIS menu prompt, regardless of whether or not the command appears on that particular menu. You can also type "partial" commands, or just a few letters of a command, as long as what you type is unique and could not be an abbreviation for any other command.

ARGUMENTS

Some DGIS commands can take "arguments". These include most of the file operations commands, such as display and rename. For example, rather than just giving the command display to see a certain file, and waiting for a DGIS response requesting the name of the file to display, you can enter the information all at once: display myfile.

HELP

Help is available online for most commands in DGIS. To get more information about a command, type the word help followed by the command: help command-name.

Summary of DGIS Commands

Command:	***Action:***
analysis	Go to citation analysis menu
automatic	Multi-task bibliographic processing
bbs	Bulletin Board System assessable through DGIS
bg	Continues a 'suspended' task in background
ccl	Common command language
chdir	Change to a subdirectory
communicate	Connect to information resources and people connect [system] Connect automatically to specified system; lists systems to which user has access
<CTRL>C	Interrupt running process
<CTRL>Z	Suspend running process (see 'bg' and 'resume')
<ESC><CTRL>A	Download results from a database search second entry stops download
<ESC><CTRL>B	Upload file to an external system
<ESC><CTRL>D	Automatic DGIS logoff from an external system
<ESC><CTRL>Z	Halt a task prior to task backgrounding
<ESC><BREAK>	Send a <BREAK> to the external system
<ESC>#	Send a <BREAK> to the external system
<ESC><ESC>	Send an <ESC> to the external system
<ESC><RETURN>	Return to current external system connection

Command:	***Action:***
<ESC>?	Display list of possible <ESC> commands
copy	Copies a file in your account under a new name
count	Counts number of times term appears in a field
cross	Correlates frequency counts for two fields
delete	Deletes a file in your account
dgis	Re-establish DGIS menus as needed from UNIX
dial	Unassisted dial into other systems
directory	DGIS Directory of Resources
display	Displays the contents of a designated file
dtic-bbs	DTIC Bulletin Board
duplicate	Eliminates duplicate citations
edit	Options to edit files
em	Electronic mail
emacs	Full screen easy-to-use editor
ex	Edits a file in your directory using the 'ex' editor
expert	Change menus to expert mode (undo with 'noexpert')
factual	Connect with factual and numeric databases
files	File operations
final	Prepare a final bibliography as formatted by designer
ftp	File Transfer Protocol used in the Internet
help	Description of features
index	Create a detailed index by selected parameters
info	DGIS news and information
internet	International network of networks
jobs	Command to see status of suspended and background jobs
kermit	Transfer files to or from your personal computer
link	Links two or more terminals to one account
list	Lists files in your account
logout	Log off the computer
maestro	SearchMAESTRO - menu-driven user interface for searching databases
media	Connect with news services
merge	Merge files into a single file
message	To block or allow the receipt of 'talk' messages
mkdir	Make a subdirectory
multi	Connect with multi-type information systems
news	What's new in bibliographic processing (see also 'info')
noexpert	Change menus back from expert mode (see 'expert')
order	Menu to order documents, articles, etc.
books	Order book purchases
buy	Place orders on previously selected citations
buyfile	Menu to order full text from downloaded citations
catalogs	Order catalogs, product brochures
dtic	Order DTIC documents directly from DTIC
ntis	Order NTIS reports and AD# documents
other	Order other types of documents
patents	Order foreign and domestic patents

Command:	*Action:*
periodical	Order journal, magazine and newspaper articles
refine	Select citations to order from a DGIS standard file
sec	Order Securities and Exchange Commission filings
specs	Order standards and specifications
status	Find the status of a GENIUS order
tech	Order dissertations, theses, etc.
trans	Order translations
passwd	Change your DGIS password
people	Communicate interactively with DGIS users
permit	Grants or denies access to your files
prepare	Go to bibliographic preparation menu
process	Information product tailoring
recover	Command used to retrieve file lost due to system interruption or power failure
reformat	Reformat citations to a standard format
rename	Renames (or moves) a file under a new name
resume	Resume a suspended or background task interactively
review	Review citations for relevance selection
rmdir	Delete a subdirectory
saveon	Save a session for later review (creates own file)
show	Lists systems for which DGIS has automatic connection agents
sort	Sort citations by specified, selected parameters
stat	Statistical analysis of frequency of fields
subdir	Create subdirectories; go to subdirectory operations
talk	To "Talk" simultaneously on the terminal with another
telnet	An Internet protocol which allows you to log onto a remote host computer
unix [command]	Execute a UNIX command
updir	Change to next higher directory
userinfo	Detailed information on a particular user
userlist	Lists ALL DGIS users
users	DGIS registered users
utilities	Miscellaneous Utilities Menu
vi	Edits a file in your directory using the 'vi' editor
whereami	Shows where you are in subdirectory level
whoson	List of people currently logged on

APPENDIX E - ALPHABETICAL LIST OF EM COMMANDS

The following table lists the most commonly used electronic mail commands. Please see the chapter "Electronic Mail" for details on using these commands.

Command	*Description*	*Example*
answer (a)	answer message	a 12 (message 12)
back (b)	return from temporary mailbox command	b created by pull
check (ch)	check when user last read mail	ch powell
check (fc)	check the syntax of a .emforward fc file or .emsend	log fc file
compose (c)	compose a message to be sent later	sa filename (save)
confer (con)	create a conference for specified	con filename users
delete (d)	delete message (quit or switching mail files makes permanent)	d 1-5
edit (e)	make changes to messages in mailbox	e 1-5 current save
exit (x)	exit but work not saved	x
fcheck (fg)	check the syntax of a .emforward .emsendlog	fc file or fc file msgs
forward (f) (F)	forward message: f with comment, F with no comment	f 1 powell, F 1 powell
group (g)	list mailing groups and their members	g group name
help (h)	online help	h
index (i)	list messages; change mail files	i 1-20; i sentmail
list (l)	list mail files	l
mail (m)	mail a message	m 1-3 powellnew
msgsforward (f)(F)	forward message: f with comment, F with no comment	f 1 powell, F 1 powell

Command	*Description*	*Example*
newmail (n)	switch to default mail file or add new mail to your queue	n
order (o)	sort a mail file	o field name
pipe r (pi r)	removes pause at end of each page	pi r
pull (p)	pull messages by data in field to temporary file	p to powell
quit (q)	quit and save work	quit
read (r)	read message(s)	r 1-5
recover (rec)	retrieve partially-edited messages	rec interrupted by a power failure
reverse (rev)	reverse message order	rev
SAVE (S)	save in file but don't delete	S 1 filename
save (s)	save in file but delete	s 1 filename
saveexit (x)	exit but work not saved	xf
sentmail (se)	a file of each message you send	i sentmail
set (set)	display or modify values of set	EM options (see help options) set sentmail set option=value
undelete (u)	undelete message	u 1
who (w)	identify user and mail group names	w powell
For general help information:		
Type	h	to list above commands list
	h general	for general-purpose help on using EM
	h commands	for a commands summary
	h topics	for a list of topics on which help is available
	h help	for help in printing online EM help
	h options	for a summary of all EM options
	h <command>	for help in the use of a specific command

APPENDIX F - VENDOR INFORMATION

If you need additional information about the databases and services provided by any of the following vendors, call the hotline numbers listed.

ASSETS:

Assessment System for European Technology and Science
Office of Naval Research European Office
Code 500 PSC 802 Box 39FPO, AE 09499-0700
44-71-409-4131, DSN 235-4131
E-Mail wsynder@onreur.navy.mil

BRS:

BRS Online Products
8000 Westpark Drive, McLean, VA 22102
(703) 442-0900
(800) 955-0906

CDMD:

Defense Technical Information Center (DTIC)
ATTN: DTIC-BCS
Bldg 5, Cameron Station, Alexandria, VA22304-6145
(703) 274-7709
DSN 284-7709

CINDAS:

Center for Information and Numeric Data Analysis and Synthesis
Purdue University
2595 Yeager Rd., West Lafayette, IN 47906-1398
(317) 494-9393

CIRC:

CIRC
FASTC/SCC
4115 Hebble Creek Rd.Suite 17, Wright Patterson AFB, OH 45433-5621
(513) 257-2133
DSN 787-2133

DARC:

Questel Inc.
2300 Clarendon Blvd., Suite #1111, Arlington, VA 22201
(703) 527-7501
(800)424-9600

DATA-STAR:

Defense Technical Information Center (DTIC)
ATTN: DTIC-BCS
Bldg 5, Cameron Station, Alexandria, VA 22304-6145
(703) 274-7709
DSN 284-7709

DIALOG:

DIALOG Information Services
3460 Hillview Avenue, Palo Alto, CA 94304
(800) 334-2564 (outside CA) (415) 858-3792

DOW JONES:

Dow Jones and Co.
P O Box 300, Princeton, NJ 08543-03008
(609) 452-1511
(609) 520-4(

DROLS:

Defense Technical Information Center (DTIC)
ATTN: DTIC-BCS
Bldg 5, Cameron Station, Alexandria, VA 22304-6145
(703) 274-7709
DSN 284-7709

FOIS:

Fiber Optics Information System (FOIS)
Department of the Navy
Naval Sea Systems Command
Washington, DC 20362-5101
(703) 602-0137

GIDEP

Government-Industry Data Exchange Program
Corona, CA 91718-8000
(909) 273-4677
(DSN) 933-4677

LEGI-SLATE:

Legi-Slate
777 No Capitol St., Washington, DC 20002
(202)898-2300
(800) 733-1131

LEXIS/NEXIS:

Mead Data Central
1150 - 18th Street, NW, Suite #600, Washington, DC 20036
(202) 857-8268
(800) 368-5868

MAESTRO:

Defense Technical Information Center (DTIC)
ATTN: DTIC-BCS
BLDG 5, Cameron Station, Alexandria, VA 22304-6145
(703) 274-7709
DSN 284-7709

MATRIS:

Manpower and Training Research Information System
DTIC MATRIS Office
ATTN: DTIC-AM
San Diego, CA 92152-6800
(619) 553-7000
DSN 553-7000

NASA/RECON:

NASA Scientific and Technical Information Facility
P. O. Box 8757, BWI Airport, MD 21240
(301) 859-5300

NEWSNET:

NewsNetDun & Bradstreet
NewsNet, Inc.
945 Haverford Rd., Bryn Mawr, PA 19010
(215) 527-8030

ORBIT:

Orbit Online Products
8000 Westpark Drive, McLean, VA 22102
(703) 442-0900
(800) 456-7248

PROBASE:

Two Skyline Place, Suite #1403, 5203 Leesburg Pike, Falls Church, VA 22041-3466
(703) 756-2310
(DSN) 289-2310

QUESTEL:

Questel, Inc.
2300 Clarendon Blvd., Suite #1111, Arlington, VA 22201
(703) 527-7501
(800) 424-9600

SIS:

Superconductivity Information System
Department of Energy
Office of Scientific and Technical Information
P O Box 62, Oak Ridge, TN 37831
(615) 576-3006
FTS 626-3006

STN:

STN International
2540 Olentangy River Rd, P O Box 3012, Columbus, OH 43210-0012
(614) 447-3600
FAX (614) 447-3713

USNI:

Periscope
Defense Technical Information Center (DTIC)
DTIC-BCS
Bldg 5, Cameron Station, Alexandria, VA 22304-6145
(703) 274-7709
DSN 284-7709

WILSONLINE:

H.W. Wilson Co.
950 University Ave, Bronx, NY 10452
(212) 588-8400
(800) 367-6770 (outside NY)
(800) 462-6060(inside NY)

MASTER ACCOUNTS

CDMD:

Defense Technical Information Center (DTIC)
ATTN: DTIC-BCS
Bldg 5, Cameron Station, Alexandria, VA22304-6145
(703) 274-7709
DSN 284-7709

DATA-STAR:

Defense Technical Information Center (DTIC)
ATTN: DTIC-BCS
Bldg 5, Cameron Station, Alexandria, VA 22304-6145
(703) 274-7709
DSN 284-7709

DROLS:

Defense Technical Information Center (DTIC)
ATTN: DTIC-BCS
Bldg 5, Cameron Station, Alexandria, VA 22304-6145
(703) 274-7709
DSN 284-7709

GENIUS (IOD):

IOD (Information on Demand
800 Westpark Drive, Mc Lean, VA 22102
800-999-4IOD (4463)
(703) 442-0303

PROBASE:

Two Skyline Place, Suite #1403
5203 Leesburg Pike, Falls Church, VA 22041-3466
(703) 756-2310
(DSN) 289-2310

Periscope (U'SNI):

Periscope
Defense Technical Information Center (DTIC)
DTIC-BCS
Bldg 5, Cameron Station, Alexandria, VA 22304-6145
(703) 274-7709
DSN 284-7709

SearchMAESTRO:

Telebase Systems, Inc.
435 Devon Park Drive, Suite 600, Wayne, PA 199087
800-220-7616
(215) 293-4700

APPENDIX G - VENDOR SEARCH HINTS

OVERVIEW

Depending on your search requirements, you need to know certain basic commands and conventions for the system you are searching. Some of the basic commands are:

1) switch to a different database
2) proper format to enter a search
3) format of Boolean expressions
4) combine datasets of search results
5) truncation
6) view index
7) format for qualifying a search term
8) view search history
9) format for displaying complete record

Information on each of these items is included for the following bibliographic retrieval systems:

BRS

DIALOG

DROLS

NASA/RECON

ORBIT

STN

For information on SearchMAESTRO, see the chapter titled "SearchMAESTRO".

BRS

1) Switch databases. Use the change command. To switch to the ERIC database, enter:

   ..c/eric

2) To enter search terms. Precede first search statement in a database with the search command (.. search). To search acid, enter:

   ..search/acid

   As long as you remain in the search mode (e.g., you haven't printed anything), (i.e., acid) you only have to enter the search terms at the prompt (e.g., acid)

3) Examples of Boolean operators (caps are not necessary)

   AND

   acid AND rain

   ADJACENCY

   acid ADJ rain

   OR

   rain OR snow

   NOT

   precipitation NOT snow

4) Combine datasets

   Enter the dataset numbers:

   1 and 2

5) Right hand truncation

   Number of character: $n

   acid$1 or acid$3

   Unlimited: $

   acid$

6) View the index

   Use the root feature (root):

   ..root acid

7) Qualify search terms

   The **limit** command is not available in all databases. Consult Aid Pages on individual databases for details.

   To search on English language articles, enter:

   ..L/n (set numbers) lg=en or ..limit/n lg=en

8) Search history

   Use the display command:

   ..d all to display all search strategies or

   ..d +++++ to display last search strategy

9) Display complete records from set number 1 on terminal Third, fourth, fifth records ..p 1 all/3-5.

   Non-sequential records

   ..p 1 all/3,5,7,9

DIALOG

1) Switch databases.

   Use the file command followed by the database number. To switch to the ERIC database, enter:

   b 1 or b eric

2) To enter search terms. Precede each search statement with select (s or ss) command. Use ss to build a set on each search item. To search on acid, enter:

   ss acid

3) Examples of Boolean operators (caps are not necessary)

   AND

   ss acid AND rain

   ADJACENCY

   ss acid (w) rain

   OR

   ss rain OR snow

   NOT

   ss precipitation NOT snow

4) Combine datasets. Enter the dataset numbers, with the combine command (c):

   c 1 and 2

5) Right hand truncation Single character:

   Two question marks, separated by a space (? ?):

   s acid? ?

   Unlimited: single question mark (?)

   acid?

6) View index

   Use the feature (expand):

   e 'acid or expand acid

7) Qualify search terms

   For Basic Index fields, enter term followed by a / and the field abbreviation, e.g. performance/ti meaning performance in the title

   For other fields, enter field abbreviation followed by an equals sign, e.g. au=jones, m.

   Consult Blue Sheets on individual databases for details.

8) Search history

Use the display sets command:

ds

9) Display complete records: type set number/4/range of record numbers, e.g., type 1/4/1-20 or t 1/4/1-20

Displays complete records for items 1 through 20 of set 1 at your terminal (use 5 instead of 4 for databases without tagged fields)

DROLS

1) Switch databases

Enter:

@str@

for Search Technical Report or

@swu@

for Search Work Unit

2) To enter search terms (each term and Boolean operator must be on a separate line). All commands must be preceded and followed by the delimiter @

To search on acid, enter:

@str@

acid

end

3) Examples of Boolean operators (caps are not necessary)

AND

@str@

acid

and

rain

end

OR (is understood when no logical operator separates the terms)

@str@

rain

snow

end

NOT

@str@

precipitation

not

snow

end

4) Combination of datasets not available

5) Right-hand truncation unlimited: use the percent sign

%acid

$acid

6) View the index

@dif@ (Display Inverted File)

radar angels

7) Qualifying search terms Refer to Defense RDT&E Online System (DROLS) Handbook, AD-A267 546, dated July 1993.

8) Search history

Use recall search question

@rsq@ or

Search Technical Report With Previous Strategy

@strwps@ or

Search Work Unit With Previous Strategy

@swuwps@

9) Display complete record from this set Third, fourth, fifth records

@dsr@

3f

end

3-5c

NASA/RECON

1) Switching databases

   Enter 'e'. A questionnaire is displayed. Select from the questionnaire.

2) To enter search terms

   Precede each search statement with select (select or s) after search or expand command.

   To search on acid, enter:

   se acid

   then select desired set to review

   s 1 select search statement #1

3) Examples of Boolean operators (caps are not necessary)

   AND

   seacid AND rain

   ADJACENCY

   se"acid rain" (up to 63 characters within quotes)

   OR

   serain OR snow

   NOT

   se precipitation NOT snow

4) Combine datasets

   Enter the dataset numbers with the combine command (c):

   c 1 and 2

5) Right hand truncation Unlimited: colon

   acid:

6) View index

   Use the expand feature (x):

   x acid

   x st/acid expand subject term "acid"

7) Qualify search terms

   Enter field abbreviation followed by a / and the term, ti/performance

8) Search history Use the display sets command: ss

9) Display complete records:

   d 1/2/1-20

   will display the complete records (format 2) for items 1 through 20 of set 1 at your terminal.

ORBIT

1) Switch databases

   Use the file command. To switch to the ERIC database (or file), enter:

   file eric

2) To enter search terms

   Just enter the search terms. To search on acid, enter:

   acid

3) Examples of Boolean operators (caps are not necessary)

   AND

   acid AND rain

   ADJACENCY

   acid (W) rain

   OR

   rain OR snow

   NOT

   precipitation NOT snow

4) Combine datasets

   Enter the dataset numbers:

   1 and 2

5) Right hand truncation

   Single character: #

   acid#

   Unlimited, use the colon (:)

   acid:

6) View index

   Use the neighbor (nbr) command:

   nbr acid

7) Qualify search terms

   Append equal sign = followed by the field qualifier. To search on English language articles, enter:

   eng=LA

8) Search history

Use the history command:

his

displays complete search strategy

9) Display complete records from set number 1 on terminal Third, fourth, fifth records prt full ss 1 3-5 Non-sequential records prt full ss1,3,5,7,9

STN

1) Switch Databases

Use the file command. To switch to the CA database (or file), enter:

file ca

2) To enter search terms

Precede each search statement with search command (search or s). To search on acid, enter:

s acid

3) Examples of Boolean operators (caps are not necessary)

AND

s acid AND rain

ADJACENCY

s acid (W) rain

OR

s rain OR snow

NOT

s precipitation NOT acid

4) Combine datasets. Enter the dataset numbers preceded by L with the select command (s):

s L1 and L2

5) Right hand truncation

Single character: #

acid#

Unlimited: ?

acid?

6) View index

Use the expand (expand or e) command:

e acid

7) Qualify search terms

Append a slash followed by the field qualifier. To search on English language articles, enter:

eng/la

8) Search history

Use the display command:

d history all

9) Display complete records from set number 1 on terminal Third, fourth, fifth records

dis 1 all 3-5

Non-sequential records must be printed individually

APPENDIX H - DGIS STANDARD FIELDS

The following chart lists the common DGIS standard field labels found in DGIS standard format files. Use the star process to determine all the field labels present in a particular file.

DGIS Field Label	***Field Name***
Fields reformatted from vendor systems into DGIS format (partial list)	
ABSTRACT	Abstract
ACCESSION NO.	Accession Number
AUTHORS	Authors
CATEGORIES	Categories, Subject Headings
CORPORATE AUTH	Corporate Author
COUNTRY	Country
DATE	Year
DOCUMENT TYPE	Document Type
DESCRIPTORS	Descriptors, Major Descriptors, Keywords
LANGUAGE	Language
PUB DESC	Publication Description
SECONDARY DESCRIPTORS	Identifiers, Minor Descriptors
TITLE	Title
TX	Text
Fields added during reformat process	
CITATION NUMBER	Citation Number
DATABASE SOURCE	Vendor (and Database)
DOWNLOAD DATE	Date input file created
DOWNLOAD FILE NAME	Input File Name
TRANSLATION DATE	Translation Date
Fields optionally added during review process	
subject	free text
relevancy	free text
comments	free text
order text	free text

The DGIS field labels are placed between angle brackets (<>) in the DGIS standard format files. Vendor field tags that the reformat process does not recognize are left in their original form and placed in angle brackets.

APPENDIX I - SAMPLE BIBLIOGRAPHY FORMATS

The following examples illustrates the appearance of the same citation using a variety of available fields and formats for a final bibliography.

FIELDS: STANDARD I

Fields include: title, accession number, year, author, publication description, abstract, database source.

Standard Format

Option(s): StI: title, accno, year, author, pubdesc, abstract, dbsource;

Standard

```
Scientific and Technical Information Network (STINET).   DIALOG
  Foundation for Evolution                               1315598
  1987
  Cotter  G  A
  AD-A189 750/3/XAB   Technical rept.   33p
    This paper describes advances which are being made in information
    retrieval systems to assist end-users and
o
o
o
    user-friendly interfaces - to overcome user barriers are described.
    DIALOG NTIS
```

Wrap Format

Option(s): StI: title, accno, year, author, pubdesc, abstract, dbsource;

Wrap

```
Scientific and Technical Information Network (STINET).
  Scientific and Technical Information Network (STINET). Foundation
  for Evolution.  DIALOG 1315598.  1987.  Cotter  G  A.  AD-A189
  750/3/XAB  Technical rept.  33p.  This paper describes advances which
  are being made in information retrieval systems to assist end-users and
  informationspecialists to overcome the critical
o
o
o
  systems, gateways, user-friendly interfaces - to overcome user barriers
  are described.  DIALOG NTIS.
```

Wrap-All Format

Option(s): StI: title, accno, year, author, pubdesc, abstract, dbsource;

Wrap All

```
Scientific and Technical Information Network (STINET). Foundation for
  Evolution.  DIALOG  1315598.  1987.  Cotter  G  A.  AD-A189
  750/3/XAB  Technical rept.  33p.  This paper describes advances which
  are being made in information retrieval systems to assist end-users
  and informationspecialists to overcome the critical
.
.
.
  user-friendly interfaces - to overcome user barriers are described.
  DIALOG NTIS.
```

Block Format

Option(s): StI: title, accno, year, author, pubdesc, abstract, dbsource;

Block

```
Scientific and Technical Information Network (STINET). Foundation for
Evolution.  DIALOG  1315598.  1987.  Cotter  G  A.  AD-A189 750/3/
XAB.  Technicalrept.  33p.  This paper describes advances which are
being made in information  retrieval systems to assist end-users and
information specialists to overcome the critical 10cm* . 10cm* . 10cm  .
user-friendly interfaces - to overcome user barriers are described.
DIALOG NTIS.
```

FIELDS: STANDARD II

Fields include: author, year, title, database source, accession number.

Standard Format

Option(s): StII: author, year, title, dbsource, accno ;

Standard

```
Cotter  G  A                                                    1987
  Scientific and Technical Information Network (STINET).
   Foundation for Evolution
  DIALOG NTIS
  DIALOG 1315598
Wrap Format
Option(s): StII: author, year, title, dbsource, accno ;
```

Wrap

```
Cotter G A
  Cotter G A. 1987. Scientific and Technical Information Network
  (STINET). Foundation for Evolution. DIALOG NTIS. DIALOG
  1315598.
Wrap-All Format
Option(s): StII: author, year, title, dbsource, accno ;
```

Wrap All

```
Cotter G A. 1987. Scientific and Technical Information Network
  (STINET). Foundation for Evolution. DIALOG NTIS. DIALOG 1315598.
```

Block Format

Option(s): StII: author, year, title, dbsource, accno ;

Block

```
Cotter G A. 1987. Scientific and Technical Information
Network(STINET). Foundation for Evolution. DIALOG NTIS. DIALOG 1315598.
```

FIELDS: STANDARD III

Fields include: accession number, year, author, title, database source.

Standard Format

Option(s): StIII: accno, year, author, title, dbsource;

Standard

```
DIALOG  1315598                                                  1989
     Cotter G A  Scientific and Technical Information Network (STINET).
       Foundation for Evolution     DIALOG NTIS
```

Wrap Format

Option(s): StIII: accno, year, author, title, dbsource;

Wrap

```
DIALOG  1315598 .
  DIALOG 1315598. 1987. Cotter G A. Scientific and Technical
  Information Network (STINET). Foundation for Evolution.  DIALOG
  NTIS.
```

Wrap-All Format

Option(s): StIII: accno, year, author, title, dbsource;

Wrap All

```
DIALOG 1315598.  1987.  Cotter G A.  Scientific and Technical
  Information Network (STINET). Foundation for Evolution.  DIALOG
  NTIS.
```

Block Format

Option(s): StIII: accno, year, author, title, dbsource;

Block

```
DIALOG  1315598.  1987.  Cotter G A.  Scientific and Technical
Information Network (STINET). Foundation for Evolution. DIALOG NTIS.
```

FIELDS: BLOCK I

Fields include: author, title, corporate author, year, publication description

Standard Format

Option(s): BII: author, title, corpauth, year, pubdesc; Standard

```
Cotter G A
Scientific and Technical Information Network (STINET).
 Foundation for Evolution
Defense Technical Information Center Alexandria VA Office of
 Information Systems and Technology.
1987
AD-A189 750/3/XAB  Technical rept.  33p
```

Wrap Format

Option(s): BII: author, title, corpauth, year, pubdesc; Wrap

```
Cotter G A. Scientific and Technical Information Network
(STINET). Foundation for Evolution. Defense Technical Information
Center Alexandria VA Office of Information Systems and Technology.
1987. AD-A189 750/3/XAB Technical rept. 33p.
```

Wrap-All Format

Option(s): BII: author, title, corpauth, year, pubdesc;

Wrap All

```
Cotter G A. Scientific and Technical Information Network (STINET).
Foundation for Evolution. Defense Technical Information Center
Alexandria V A Office of Information Systems and Technology. 1987.
AD-A189 750/3/XAB Technical rept. 33p.
```

Block Format

Option(s): BII: author, title, corpauth, year, pubdesc;

Block

```
Cotter G A. Scientific and Technical Information Network (STINET).
Foundation for Evolution. Defense Technical Information Center
Alexandria
VA Office of Information Systems and Technology. 1987. AD-A189 750/3/XAB
Technical rept. 33p.
```

FIELDS: BLOCK II

Fields include: author, title, publication description, year

Standard Format

Option(s): BIII: author, title, pubdesc, year;

Standard

```
Cotter G A
Scientific and Technical Information Network (STINET). Foundation for
Evolution
AD-A189 750/3/XAB Technical rept. 33p 1987
```

Wrap Format

Option(s): BIII: author, title, pubdesc, year;

Wrap

```
Cotter G A. Scientific and Technical Information Network
(STINET). Foundation for Evolution. AD-A189 750/3/XAB Technical
rept. 33p. 1987.
```

Wrap-All Format

Option(s): BIII: author, title, pubdesc, year;

Wrap All

```
Cotter G A. Scientific and Technical Information Network (STINET).
Foundation for Evolution. AD-A189 750/3/XAB Technical rept. 33p.
1987.
```

Block Format

Option(s): BIII: author, title, pubdesc, year;

Block

```
Cotter G A. Scientific and Technical Information Network (STINET).
Foundation for Evolution. AD-A189 750/3/XAB Technical rept. 33p. 1987.
```

FIELDS: SELECTED (REGULAR) - UP TO 8 FIELDS

Possible variations are numerous. The following examples are based on the selection: author, year, title.

Standard Format

Option(s): author, year, title;

Standard

```
Cotter G A                                                    1987
  Scientific and Technical Information Netwo.k (STINET).
   Foundation for Evolution
```

Wrap Format

Option(s): author, year, title;

Wrap

```
Cotter G A .
  Cotter G A. 1987. Scientific and Technical Information Network
  (STINET). Foundation for Evolution.
```

Wrap-All Format

Option(s): author, year, title;

Wrap All

```
  Cotter G A. 1987. Scientific and Technical Information Network
(STINET). Foundation for Evolution.
```

Block Format

Option(s): author, year, title;

Block

```
Cotter G A. 1987. Scientific and Technical Information Network
(STINET).
Foundation for Evolution.
```

FIELDS: SELECTED (SPECIAL) - UP TO 8 EXACT FIELD LABELS

The possible variations are numerous. Whichever fields your select, the appearance of the four different types of formats (Standard, Wrap, Wrap All, Block) is similar to the other examples in this appendix.

APPENDIX J - EDITOR COMMAND SUMMARIES

DGIS offers three different file editors to create new files or alter existing files. They are: Ex, Vi and Emacs. You can access any of the editors from the DGIS file operations menu for editing. A summary of each of their commands is provided in this appendix.

EX COMMAND SUMMARY

This summary lists common Ex commands. Ex is a line editor.

ENTERING/EXITING EX

Command:	*Action:*
ex <filename>	enter file for editing
w	save work and no exit
wq	save work and exit
x	save work; exit
q!	do not save work; exit

LINE POSITIONING COMMANDS

Command:	*Action:*
c	print current line
c=	print line number of current line
p	print current line
$	print last line in file
12,222	print specified lines
^	move cursor to beginning of line
1,3m8	move lines after line
2,8col5	copy lines after line
ya	yank line, place in buffer
5,9ya	yank specified lines (place in buffer)
cpu	put buffer after current line

TEXT ENTERING COMMANDS

Command:	*Action:*
a	add text below current line
i	insert text above current line
r<filename>	read in contents of another file

Searching for a Pattern

Command:	*Action:*
/pattern	locate next occurrence of pattern
g/pattern/	print lines containing pattern
g!/pattern/	print lines NOT containing pattern

MAKING CORRECTIONS

Command:	*Action:*
s/old/new/	change old pattern to new pattern
old/s//new	search for old, replace with new
g/old/s//new/	global search and replace (first occurrence on each line)
s/old/new/g	global search and replace (all occurrences in file)
g/^$ /d	globally delete all blank lines
p	print changed lines repeat the last substitute request
2,14d	delete range of lines specified

PATTERN MATCHING SYMBOLS

(use with substitute command or pattern searches)

Command:	*Action:*
*	matches any number of occurrences
c	matches any single character
&	matches old pattern (substitute command)
s/world/&today	(substitutes world with world today)
^	find pattern only at beginning of line
$	find pattern only at end of line
~	repeat previous substitute command (or match old pattern of previous substitute command)

MISCELLANEOUS COMMANDS

Command:	*Action:*
f	show current line status information
e!	erase changes since the last w
e<filename>	edit specified file
vi	change to visual editor

VISUAL EDITOR (VI) COMMAND SUMMARY

This summary lists common Vi commands. Vi is a full screen editor.

ENTERING/EXITING VI

Command:	*Action:*
vi <filename>	enter file for editing
:w	save work and no exit
:wq	save work and exit vi
ZZ	save work and exit vi
:q!	do not save work; exit vi

CURSOR AND SCREEN MOVEMENT

Command:	*Action:*
** or k	up cursor arrow
** or j	down cursor arrow
** or l	right cursor arrow
** or h	left cursor arrow
^	move to beginning of line
$	move to end of line
w	advance one word*
b	move backwards, one word*
H	move to top line of screen*
M	move to middle of screen*
L	move to last line of screen*
G	move to end of file*
1G	move to line1 of file (any line may be specified)
<RETURN>	advance to next line
<CTRL>B	move backward one (1) full screen
<CTRL>F	move forward one (1) full screen
<CTRL>U	delete current line
<CTRL>D	scroll down one-half (1/2) screen
/pattern	look forward for pattern
?pattern	look backward for pattern
n	find next occurrence of pattern
<CTRL>G	line status information

TEXT ENTERING COMMANDS

Press <ESC> to end.

(Until you press <ESC> all commands are treated as characters rather than as commands.)

Command:	*Action:*
a	add text to right of cursor
i	add text to left of cursor
o	open line BELOW to add text
O	open line ABOVE to add text

MAKING CORRECTIONS

(The buffer stores the current yank or delete operation. The p command may be used to put back the contents of the buffer. Additional buffers may be used.)

Command:	*Action:*
x	delete single character*
dw	delete a word*
dd	delete a line*
D	delete a line (from cursor to end of line)
r	replace a character
J	join two lines
u	undo last change made on a line
U	restore line (original state before changes)

REPLACING A WORD OR LINE

(Press <ESC> to end)

Command:	*Action:*
cw	change a word*
C	change a line (from cursor to end of line)

RELOCATION COMMANDS

(The buffer stores the current yank or delete operation. The p command may be used to put back the contents of the buffer. Additional buffers may be used.)

Command:	*Action:*
yy	yank copy place in buffer*
P	put buffer ABOVE line*
p	put buffer BELOW line*
:1,26t82	copy lines after line
:1,26m82	move lines after line
:1,26w <filename>	write lines to new file
:g/string/s//newstring/	global search and replace

* Vi commands followed by an asterisk can be prefaced with a number to expand the action. For more information, please refer to the chapter "Visual Editor".

EMACS COMMAND SUMMARY

Emacs is an easy-to-use full screen editor. The most common Emacs commands are listed below:

Command:	*Action:*
emacs <filename>	enter file for editing
(start typing)	insert text
<CTRL>X	delete character
<CTRL>K	delete line (to right)
<CTRL>P	move cursor up a line
<CTRL>N	move cursor down a line
<CTRL>F	move cursor forward a space
<CTRL>B	move cursor back a space
<CTRL>V	move to next page
<ESC>V	move to previous page
<CTRL>A	move to beginning of current line
<CTRL>E	move to end of current line
<CTRL>C <CTRL>C	exit

APPENDIX K - UPLOADING AND DOWNLOADING DATA

The first section discusses how to download data directly from remote databases to a disk on your PC using some common PC software packages; i.e., SMARTCOM II, CROSSTALK, and PROCOMM. The second section covers how to upload/ download data from files that were first downloaded to DGIS, manipulated using the post-processing feature, and then downloaded to your disk using Kermit software. The third section provides a list of Kermit commands and their functions.

CAPTURING DATA DIRECTLY TO A DISK

CAPTURING DATA USING SMARTCOM II PC SOFTWARE

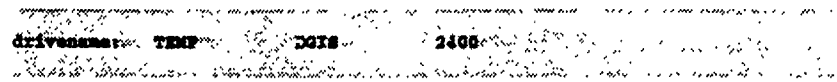
The following instructions pertain to uploading/downloading data using SMARTCOM II software. You are connected to the remote database, and are about to display the required data.

To Start the Capturing Process:

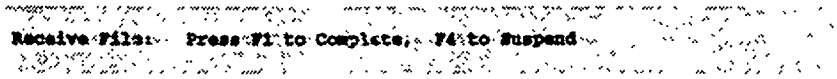
On the terminal screen you will see SMARTCOM II's command line (line 25).

To capture data to a disk, press the <F4> function key. (A temporary receive file is set up by the program to capture the desired data.)

A status line will appear containing the name of the temporary file (drivename: TEMP), the setup name and the baud rate.



The command line will contain operating instructions.



Enter the command to display the desired data on the remote database. When you are finished displaying all the citations, press the <F1> key to complete. The program will respond:

Enter the filename that you wish to hold the data on your PC. The program will respond:

```
drivename: filename Receive Complete x lines (x = no of lines saved to
the file).
```

To Stop the Capturing Process:

To suspend writing to the file, press the <F4> key. The command line will be blank. To resume capturing data, follow the above instructions (the <F4> key). The data will be written to the same file with no further user intervention.

CAPTURING DATA USING CROSSTALK PC SOFTWARE

The following instructions pertain to capturing data using CROSSTALK software. The program must be switched from terminal mode to command mode by the use of the ATTENTION key, which must be user defined. The default <ESC> key cannot be used because <ESC> is used as the DGIS connect/disconnect command key. Here we will use <CTRL>O (also written as O), since it is not used elsewhere in DGIS. To define the CROSSTALK ATTENTION key, just press the current ATTENTION key to enter command mode, then enter: AT<CTRL>O .

You are connected to the remote database and are about to display the required data.

To Start the Capturing Process:

Press the ATTENTION key to go to command mode (in this example <CTRL>O). The program will respond:

```
Command:

Enter: CA <filename> <RETURN>
```

The command line (line 25) will denote Capture as being on.

```
^O for Attention, Keys to Switch // Capture to Dir: filename // Numeric
```

Enter the command to display the desired data on the remote database.

To Stop the Capturing Process:

Enter: ATTENTION key (<CTRL>O)

Enter: CA <RETURN

Response:

```
Captured file successfully written.
```

The command line will denote Capture as off.

```
^O for ATtention    Home to SWitch // Capture Off // Numeric
```

To Pause or Interrupt the Process:

The process may be toggled to pause and resume.

```
o To pause:
```

Press the ATTENTION key to go to command mode (<CTRL>O).

The program will respond:

```
Command?:
```

Enter: CA <RETURN

The command line will denote Capture as paused.

```
^O for ATtention,  Home to SWitch //   D: filename.paused // Numeric
```

o **To resume:**

Enter: ATTENTION key (<CTRL>O)

Enter: CA <RETURN>.

The command line will denote Capture as on.

```
^O for ATtention  Home to SWitch // Capture to D: filename // Numeric
```

CAPTURING DATA USING PROCOMM SOFTWARE

The following instructions pertain to uploading/downloading data using PROCOMM software. PROCOMM utilizes commands initiated by the use of the <ALT> key in connection with the terminal's function keys (F1 — F8) and specific alpha-numeric key. The only real difference between PROCOMM and PROCOMM PLUS in this respect is that PROCOMM does not show a status line.

You are connected to the remote database and are about to display data. The PROCOMM PLUS status line (line 25) will read as follows:

```
Alt-Z for Help/ANSI/FDX/  2400  N71/Log  Closed/Print  Off/  On-Line
```

To Start the Capturing Process:

Press <ALT><F1> to turn Capture on. <ALT <F1> will act as a toggle switch to turn Capture both on and off. The status line in PROCOMM PLUS will appear as follows:

```
ALT-Z for Help/ANSI  /FDX/  2400 N71/  Log Open/  Print Off/On-Line
```

A "pop-up" window will appear on the terminal screen requesting a file name:

```
Enter log filename, or CR for default
```

Enter desired file name to hold the file on your PC.

Then enter the commands to display the desired data in the remote database.

To Stop the Capture Process:

Press <ALT><F1>

The status line in PROCOMM PLUS will appear as follows:

```
Alt-Z for Help/ANSI/FDX/2400  N71/Log Closed/Print   Off/On-Line
```

To Pause or Interrupt the Process:

o To pause:

Press <ALT><F2>

The status line in PROCOMM PLUS will appear as follows:

```
Alt-Z for Help/ANSI/FDX/2400  N71/Log On Hold/Print   Off/On-Line
```

o To resume capturing data:

Press <ALT><F1>

To Capture Data to a Floppy Disk Located in Drive A:

Press <ALT><F1> to turn downloading on.

A "pop-up" window will appear on the screen.

```
Enter:    A:<filename>
```

Capturing After Post-Processing

Download your citations to DGIS first, using the <ESC><CTRL> A command while connected to the remote database. To log off the remote database, enter<ESC><CTRL>D.

To download your DGIS file to your PC, instructions are given to transfer your file using the Kermit error-correcting protocols.

TRANSFERRING FILES STORED ON DGIS TO YOUR PC USING CROSSTALK

The following instructions pertain to transferring files using CROSSTALK software. The program must be switched from terminal mode to command mode by the use of the ATTENTION key which is user defined. You cannot use the default key <ESC> as the CROSSTALK ATTENTION key with DGIS, since <ESC> is used as the DGIS connect/disconnect command key. Here we will use a <CTRL>O (also written as ^O), since it is not used elsewhere in DGIS. To change the CROSSTALK ATTENTION key, just press the current ATTENTION key to enter command mode, then enter AT<CTRL>O.

All program responses identified below will appear in the command line of the screen. We will use the Kermit features of CROSSTALK to download to the PC.

At any DGIS menu prompt, type:

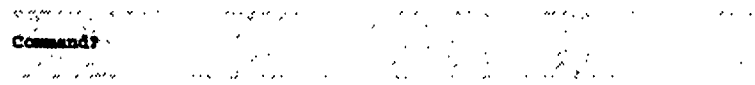
kermit -s filename (filename is the file you want to download)

or

enter: kermit then enter: send <filename>

Press the ATTENTION key to go to the command mode (in our example <CTRL>O)

The program will respond:



Enter: ke re <filename>

(You may want to use a:<filename> if you want it to transfer to your A Drive.)

The file will now transfer. You will see the percent transferred as it progresses.

If you entered the DGIS Kermit command in two steps, you need to enter exit to get back to the DGIS menus. Otherwise, you will automatically be placed back in the DGIS menus.

TRANSFERRING FILES STORED ON DGIS TO YOUR PC USING PROCOMM

We will use the Kermit protocols to transfer the file. You can also transfer files using PROCOMM ASCII and the DGIS display command, but this method does not use the Kermit error-correcting protocols.

NOTE: In PROCOMM PLUS, you must change one of the default Kermit settings in order to transfer a text file. To do this, execute a program called PCSTD.EXE in your PROCOMM PLUS directory. (You can exit out of PROCOMM PLUS itself without hanging up the phone.) Cursor down to KERMIT SETTINGS and CARRIAGE RETURN. If the FILE TYPE option is set to BINARY, change it to TEXT and save the changes. Then go back to PROCOMM PLUS.

At any DGIS menu prompt, enter:

kermit -s <filename>, where filename is the file you want to download

or

enter: set parity even

enter: send <filename>

Hit the <PAGEDOWN> key to see the PROCOMM protocol menus.

Enter 2 for Kermit

The file should now transfer. You will see the number of bytes being transferred as the transfer proceeds. When it is completed, your PC will beep several times.

If you entered the DGIS kermit command in two steps, you need to enter exit to get back to the DGIS menus. Otherwise, you will automatically be placed back in the DGIS menus.

If you want to upload a file to DGIS, the following steps are taken. At any DGIS prompt, enter:

kermit and <RETURN>

enter: set parity even

enter: r <filename>

Hit the <PAGEUP> key to see the PROCOMM protocol menu

Enter 2 for Kermit

Provide file path location, i.e., c:\procom\file.\<filename>

After the file has been uploaded, type exit to leave Kermit and return back to DGIS.

If you want to send the file through e-mail, select 4 on the DGIS menu, type m to sent an e-mail, respond to the To:, CC: and Subject: prompt and type a message. Then hit <CTRL>C <CTRL>C. At the next prompt, type incl for include. You will be prompted for the <filename> of the file you want to attach to the mail message. Type se for send and the file will be attached to the e-mail message. Type q to quit and return to the DGIS Main Menu.

KERMIT COMMANDS

Basic Kermit Tools

1. The kermit command prompt is: c-kermit>
2. For a list of kermit commands, type a ? at the kermit prompt.
3. For an explanation of any of the kermit commands, type help <command>
4. While typing commands, use the following special characters:

Special Character	*Action*
DEL, RUBOUT, BACKSPACE, or <CTRL>-H	Delete the most recent character typed.
<CTRL>-W	Delete the most recent word typed.
<CTRL>-U	Delete the current line.
<CTRL>-R	Redisplay the current line.
? (QUESTION MARK)	Display help on the current command or field
<ESC> (ESCAPE OR ALTMODE)	Attempt to complete the current field
\ (BACKSLASH)	Include the following character literally.

5. From system level, type kermit-h to get help about command line arguments.

BASIC KERMIT COMMANDS

Command:	*Action:*
show	Display current values of "set" parameters; show version will display program version information for each of the C-Kermit modules.
bye	Shut down and log out of a remote Kermit server. Dial a number using modem auto dialer.
finish	Tell the remote Kermit server to shut down without logging out.
exit or quit	Exit from the Kermit program, closing any open logs.
send	Send file1 [file2] . File 1 may contain wild card characters "*" or "?". If no wild cards, then file2 may be used to specify the name file1 is sent under; if file2 is omitted, file1 is sent under its own name.
space	Display disk usage in current device, directory.
close	Close one of the following logs: session, transaction, packet, debugging — help log for further information.
directory	Display a directory of local files.
get	Get filespec. Tell the remote Kermit server to send the named files. If filespec is omitted, then you are prompted for the remote and local filenames separately.
receive	Receive [filespec]. Wait for a file to arrive from the other Kermit, which must be given a send command. If the optional filespec is given, the (first) incoming file will be stored under that name, otherwise it will be stored under the name it arrives with.
server	Enter server mode on the currently selected line. All further commands will be taken in packet form from the other Kermit program.
statistics	Display statistics about most recent file transfer.

connect	Connect to remote system via the TTY device given in the most recent set line command.
echo	Display the rest of the command on the terminal, useful in command files.
remote	The remote command is used to send file management instructions to a remote Kermit server. There should already be a Kermit running in server mode on the other end of the currently selected line. Type remote ? to see a list of available remote commands. Type help remote x to get further information about a particular remote command x .
set	The set command is used to establish various communication or file parameters. The show command can be used to display the values of "set" parameters. Help is available for each individual parameter; type help set ? to see what's available.
take	Take Kermit commands from the named file. Kermit command files may themselves contain take commands, up to a reasonable depth of nesting.

APPENDIX L - CUSTOM FILES IN YOUR HOME/CCL DIRECTORY

In addition to the variables you may set within the CCL program itself using the **set** and **define** commands, there are certain files in your home/ccl directory which can be modified using an editor (such as VI or EMACS). These settings will override the CCL-defined defaults. For instance, if you usually search ERIC whenever you log onto DIALOG, you could put **choose** 1 in your DIALOG file (1 is the database identifier for ERIC). Then, every time CCL connects to DIALOG, you will automatic lly be logged into ERIC. After the initial login, you will still be able to change databases using the **choose** command.

Or, you might want to set the **display** format of usr1 to always include the author, title, and abstract fields. This can be done in the file called "defaults". You would include the CCL command, **set** usr1 au. ti, ab, in that file.

The most important difference between using these custom files in your home/ccl directory and using the **set** and **define** commands each time you sign-on to CCL is that the information in the custom files remain in effect for each CCL session. The parameters specified using **set** and **define** apply just to the current CCL session; once you **exit** the CCL, these values are erased and all the settings return to the CCL default values.

There are several files that may reside in the home/ccl directory.

NOTE: Home is your login directory. The following files are contained in your home/ccl directory.

Unix File Name	*Description of Contents*
defaults	Contains CCL commands that set overall CCL system defaults (e.g., all **set** and **define** commands would be placed in this file). You may also always want to perform the **show** command each time you sign-on so that you know what your parameters are. You would include this command in the "defaults" file.
BRS	Contains commands that are specific to the BRS database system (e.g., to set the default database to something other than its current default, which is ERIC, you would enter **choose** [database identifier].) You may also include CCL commands that would be executed each time you signed on to BRS.
DIALOG	Contains commands that are specific to the DIALOG database system (e.g., to set the default database to something other than its current default, which is currently NTIS, you would enter choose [database identifier].) You may also include CCL commands that would be executed each time you signed on to DIALOG.

DROLS	Contains commands that are specific to the DROLS database system (e.g., to set the default database to something other than its current default, which is currently the Technical Reports database—TR you would enter **choose** [database identifier].) You may also include CCL commands that would be executed each time you signed on to DROLS.
NASA-RECON	Contains commands that are specific to the NASA/RECON database system; since this is a Unix file name, slashes cannot be used to name a file; therefore, a hyphen is used instead. (e.g., to set the default database to something other than its current default, which is currently A, you would enter **choose** [database identifier].) You may also include CCL commands that would be executed each time you signed on to NASA-RECON.
ORBIT	Contains commands that are specific to the ORBIT database system (e.g., to set the default database to something other than its current default, which is currently the NTIS, you would enter **choose** [database identifier].) You may also include CCL commands that would be executed each time you signed on to ORBIT.

To **create**, **edit**, and **delete** these files, you may use any editor, like VI, EMACS, or Ex. If you have not entered any commands in these custom files, they will be empty.

APPENDIX M - SYSTEM MESSAGES

SYSTEM MESSAGES

The CCL incorporates the system messages listed in Table 3 to assist you in identifying errors. This table includes Error Messages, an Explanation of these messages, and the Most Likely Correction.

Error Message	*Explanation*	*Most Likely Correction*
Not a valid command	Command entered is not a current CCL command	Double-check the CCL command; refer to Table 1 for complete list of commands
Not a valid alias	A wrong parameter was used in the define command	Verify define syntax and re-enter command
Not a valid boolean operator	An operator other than AND, OR, NOT was used	Enter AND, OR, NOT
Not a valid comparison operator	An invalid operator was used to compare two items	Select from one of the valid limiting and ranging operators found in Figure 5
Not a valid proximity operator	An operator other than NEAR or WITH was used	Double-check the command syntax
Character is not valid at this point	Incorrect syntax was used	Use the <^> to retrieve help on what parameter should be used in the position
Invalid number	A number which is either higher, lower, or negative was used	Occurs in a back or forward command, or an incorrect database numeric identifier; check the number again
Not a set identifier	A number which cannot be applied to the current number of sets, or the wrong letter was used to mark a set	Check the number of sets you have (use review); Check the syntax you used to identify a set number
Not a list separator	A character other than a comma was used	Enter a comma between the elements you wish to separate

Error Message	*Explanation*	*Most Likely Correction*
Not a range separator	A character other than a hyphen was used	Enter a hyphen between the range of numbers
Not a command separator	A character other than a comma or, in the case of define, something other than a semi-colon was used	Be sure a comma or semi-colon separates the commands
Not a valid database field	Not all databases offer the same field codes; this indicates you have selected one that is not offered	Check the field names and codes that are offered by that database by using find
Not a valid command	Result of using the explain command where an invalid command or topic was requested	Use the <^> key to retrieve a list of supported topics and commands that can be used with explain
Not a valid option	Option selected is not allowed	Re-read the prompt and select an option listed
Not a valid variable	The variable setting is not accurate	Review the valid settings to which the parameter may be set
Not a valid display format	A format other than USR1, USR2, LONG, SHORT was used to define the display	Select USR1, USR2, LONG, SHORT
Not a valid state	A variable position (e.g., on or off) was set incorrectly	Review the variable settings and select a correct one
Not a valid database name	An incorrect numeric code or acronym was used to select a database with the choose command	Use the <^> key to retrieve a list of valid database codes that can be used in the database you have selected
Invalid command in alias	Incorrect CCL commands have been used to create a define	Review the syntax you have used; be sure you have entered a valid CCL command
Not a valid database system	A mistake was made in entering a database system name	Use: BRS, CCL INFO, DIALOG, DROLS, NASA-RECON, ORBIT, QUIT

Error Message	*Explanation*	*Most Likely Correction*
Unknown response from "Database"	Usually means that host database (i.e. BRS etc.), or the host connection is not available	Try again at a later time
Please enter a search term or a field code and a search term	CCL is expecting a search term or a field code	Use the <^> key for a list of valid field codes
Invalid syntax, enter "find^" or "explain find" for assistance	Improper syntax for "find" command	Enter "find^" or explain find"
There is another CCL process running in this account. This process must be removed to continue. Do you want it removed? (Y/N)	CCL was previously aborted via power off or time out. CCL may have a batch process running via the Query Builder	Enter "Y" if CCL was aborted. Enter "N" if Query Builder has scheduled a CCL batch process

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