

MUSIC/SP

Version 5

Release 1

Guide for New Users

Seventh Edition (April 1996)

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About This Book

The *MUSIC/SP Guide for New Users* is for anyone who is learning how to use MUSIC/SP (Multi-User System for Interactive Computing / System Product).

This guide explains:

- Basic concepts of MUSIC/SP
- Full Screen Interface (FSI) menu facility
- Creating and modifying files using the Editor
- Running programs
- File management
- Electronic mail
- MUSIC/SP command language

There are exercises throughout the guide that provide for hands-on, interactive experience with MUSIC/SP. The guide is set up in a task-oriented way, and you are encouraged to perform as many examples as possible. Most of the chapters end with a summary of the major areas covered in the chapter.

Commands and file names that you are asked to type in are sometimes set off by quotation marks (" ") in order to stand out from the rest of the text in the sentence. Do not type in these quotation marks.

You will also notice that sometimes commands are printed in upper case letters, lower case letters, or a combination of both. MUSIC/SP will accept and process commands typed in upper or lower case letters. Commands are presented this way to show the upper case portion as the actual command and the lower case portion as the variable information that you supply. For example, in the command "EDIT filename", "EDIT" is a MUSIC/SP command and "filename" is the name you supply for one of your files.

Chapter Outlines

Chapter 1. Introduction

The introduction describes the basic concepts of MUSIC/SP and what MUSIC/SP is used for.

Chapter 2. Getting Started

Explains how to sign on to MUSIC/SP, start the FSI working environment, get help, change your password, and sign off from MUSIC/SP.

Chapter 3. Using the Editor

Explains how to create, edit, and save files on MUSIC/SP.

Chapter 4. Programming

Explains how to run programs using the compiler/processor interface of FSI.

Chapter 5. File Management

Discusses the file system on MUSIC/SP, and explains how to view your library (directory of files), copy, print, and delete files.

Chapter 6. Electronic Mail

Explains how to use electronic mail to send messages locally or externally.

Chapter 7. Additional Features

Discusses additional programs of general interest, such as TODO, MUSIC/SCRIPT, and PROFILE.

Chapter 8. MUSIC Commands

Discusses the commands available from MUSIC/SP's command mode (*Go mode).

Glossary

Defines the common terms used throughout this guide.

MUSIC/SP Publications

The following is a list of all the current MUSIC/SP publications. These hardcopy publications can be ordered through the MUSIC Product Group. Online versions (softcopy) of the user publications can be accessed with the MUSIC/SP command called "MAN".

- *MUSIC/SP Administrator's Guide* (April 1996), describes how to install and operate MUSIC/SP.
- *MUSIC/SP Administrator's Reference* (April 1996), describes the internals of MUSIC/SP; utility programs and supervisory commands; gives detailed storage estimates; and documents console messages.
- *MUSIC/SP User's Reference Guide* (April 1996), describes how to use MUSIC/SP; its command language; terminal and batch set up; and job processing using the various language processors.
- *MUSIC/SP Guide for New Users* (April 1996), introduces new users to the use of MUSIC/SP via an IBM 3270-type workstation. It describes the FSI (Full Screen Interface) menu facility. New users learn how to use many programs on MUSIC/SP for such tasks as editing and running programs.
- *MUSIC/SP Office Applications Guide* (April 1996), describes the features of the TODO (Time, Office, and Documentation Organizer) facility. This includes the scheduling function, spell checking, and MUSIC/SCRIPT (text processing).
- *MUSIC/SP Mail and Conferencing Guide* (April 1996), describes electronic mail on MUSIC/SP. This includes Mail Profile, Mail Directory, using POP clients, and conferencing programs.
- *MUSIC/SP Internet Guide* (April 1996), describes the programs available on MUSIC/SP that provide communication between users through electronic conferencing and discussion lists. Emphasis is placed on access to the Internet with programs such as TELNET (logging on other computers), FTP (File Transfer Protocol), WEB (World-Wide Web), RN (Newsreader), and GOPHER (document search and retrieval protocol).
- *MUSIC/SP Campus-Wide Information Systems (CWIS) Guide* (April 1996), describes how to create and maintain a Campus-Wide Information System, Help facility, or Classified Ads facility; how to do full-text searching; and how to provide gopher access. MUSIC/SP's resources are used to provide online distribution of information to a wide audience.
- *MUSIC/SP Teacher's Guide* (April 1996), describes various MUSIC/SP facilities related to the academic environment. Emphasis is placed on communication between teacher and student and easy methods for learning how to use MUSIC applications.
- *MUSIC/SP Client/Server (MCS) Booklet* (April 1996) provides an overview of MCS. Full documentation is available on the MCS diskette.
- *MUSIC/SP Personal Computer Workstation User's Guide* (May 1994), describes the components of the Personal Computer Workstation (PCWS). It is intended for the novice or experienced user of a personal computer, who wishes to connect to MUSIC/SP or another host system. Note that documentation for *PCWS for Windows* is available on the PCWS diskette.

Chapter 1. Introduction

Chapter 1. Introduction

Overview

This chapter is for anyone who wishes to learn the basics of the MUSIC/SP system. It is important to understand the concepts and terminology before proceeding to subsequent chapters.

This chapter explains:

- Basic Concepts of MUSIC/SP
- What MUSIC/SP is used for
- Userids and Passwords
- File System
- Different Working Environments
- Workstations (screen messages, important keys)

Note: The terms MUSIC/SP and MUSIC are synonymous and are used interchangeably throughout this guide. Check in the glossary in the back of this guide for definitions of any terms you are not familiar with.

What is MUSIC/SP?

MUSIC/SP (MUSIC for short) allows many users to access one computer concurrently. Many types of workstations (personal computers, terminals) are supported. At the workstation, you can interact with the MUSIC system directly, telling it what to do. This *interactive* system, in turn, responds to that request at your workstation.

The figure below shows a simple configuration of the MUSIC environment.

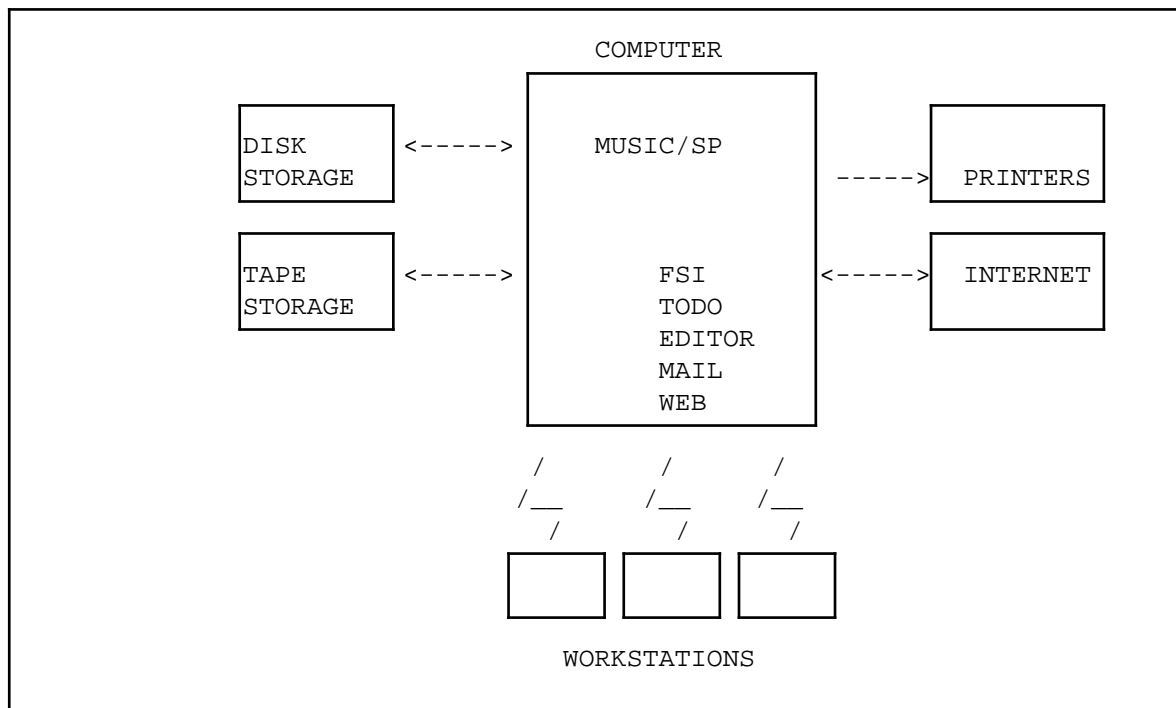


Figure 1.1 - Configuration of MUSIC

MUSIC is an operating system that acts like a middleman between you and the computer's resources. It is stored internally in the computer's memory. MUSIC has many programs to help you use the computer productively. Menu-driven facilities on MUSIC provide an easy method of accessing the most common programs such as the Editor (for creating and revising files) and MAIL (electronic mail). Full-Screen Interface (FSI) and Time, Office and Documentation Organizer (TODO) are two menu facilities available to you. FSI, TODO, the Editor, and MAIL are all programs or *software* that are part of the MUSIC system.

Some of the equipment or *hardware* attached to the computer are: disk for online storage of your files; magnetic tape or cartridges for offline storage; printers at the central site for large volumes of output; and a variety of workstations (personal computers or terminals).

How is MUSIC Used?

MUSIC includes a wide variety of software for general users, programmers, students, and the system administrator. The diagram below illustrates some applications that can be done simultaneously with MUSIC.

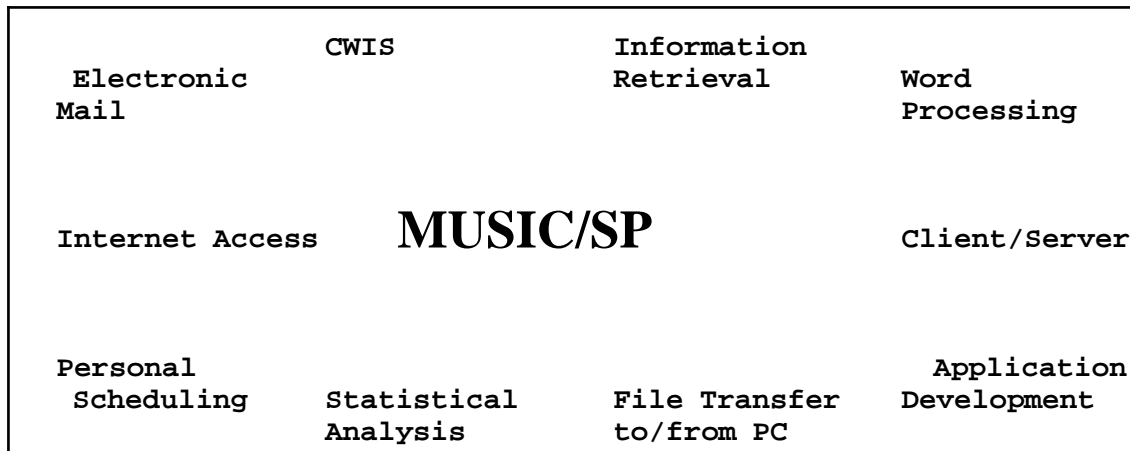


Figure 1.2 - MUSIC Applications

The following is a brief description of a few uses of MUSIC:

- **Electronic Mail:** MUSIC's MAIL system includes features useful to novice or advanced users. In an academic environment it helps in the distribution of notes and assignments. The MAIL system connects to the international academic electronic mail networks, providing professors and researchers access to their colleagues throughout the world.
- **Internet Access:** Along with email, there are many programs on MUSIC for using the Internet; such as: FTP (File Transfer Protocol), Telnet, Web browser, News Reader, etc. These programs are described in the *MUSIC/SP Internet Guide*.
- **Client/Server Applications:** MUSIC provides a number of client/server programs, including MCS (MUSIC/SP Client/Server), Gopher Server & client, POP server, Web Server, etc. MCS is described in the help topic "MCS" (complete documentation is included on the MCS diskette). Gopher and Web are described in the *MUSIC/SP Internet Guide*.
- **Programming Languages:** MUSIC provides menu driven interfaces to high level language compilers. For the novice, the programs are compiled and linked in a single step, eliminating the need to handle object programs and load modules.
- **Electronic Office:** MUSIC's electronic office subsystem (TODO) includes calendar and schedule management applications. SCRIPT, a word processing program, is useful in the preparation of term papers, assignments, and theses. The SPELL program uses a 90,000 word dictionary to check your spelling.
- **Statistics and Graphics:** Several statistical packages run with MUSIC to provide the tools for both the novice and the professional statistician.
- **Personal Computing:** The Personal Computer Workstation (PCWS) component of MUSIC provides terminal emulation, file transfer, and programmable communications. This program is described in the *MUSIC/SP Personal Computer Workstation (PCWS) Guide*.
- **Developing Applications:** Programmers have many programming tools available to them. The tools include those to design full screen panels and interface them to high level applications. This guide provides an introduction to running programs (*Chapter 4 - Programming*). For more information about programming tools, see the *MUSIC/SP User's Reference Guide*.

Userids and Passwords

A userid and password are assigned to each MUSIC user. The userid is the means by which the computer identifies you, and your ownership of files on the system. Each userid is 1 - 16 characters long and may contain a subcode. The subcode distinguishes different users when a userid is shared. (Users sharing the same userid also share the same files. Most often there is only one user per userid.) File ownership is based on the userid excluding any subcode. This is referred to as your ownership id.

The password is your authorization to use that userid. It is a good idea to change your password frequently to maintain security (this procedure is described in *Chapter 2 - Getting Started*).

Note: Sometimes the userid is referred to as your user code, sign-on code, or ID.

MUSIC Profile

Each userid has a MUSIC profile associated with it. Your profile defines many things, including: the amount of disk storage you are allowed, how large each file can be, and your password. More information can be found in *Chapter 7 - Additional Features*, under the topic "MUSIC Profile".

Working Environment

On MUSIC you can choose what type of working environment you would like to use. Your MUSIC profile can be set up to present a particular program automatically each time you sign on to MUSIC. (The PROFILE program is described in *Chapter 7 - Additional Features*.) FSI (Full-Screen Interface) is a menu facility that you can use for your working environment. The default program assigned to new users is most often FSI.

If a program is not assigned to your profile, then the *Go message is displayed when you sign on. At this point, you can enter a MUSIC command to invoke any program on MUSIC. MUSIC's command language is described in *Chapter 8 - MUSIC Commands*.

Menu Facilities

Menu facilities are programs that present a selection menu to provide easy access to other MUSIC programs. Your site may have developed its own menu facilities or you can tailor your own by using the TMENU program described in the *MUSIC/SP Administrator's Reference* or the *MUSIC/SP Office Applications Guide*.

FSI (Full-Screen Interface) provides an interface for general use of the MUSIC system. It provides access to common programs for electronic mail, creating and editing files, and file management. This guide teaches you about FSI.

TODO (Time, Office, and Documentation Organizer) is an office menu system, providing access to programs for word processing, spell checking, scheduling, etc. This interface is fully described in the *MUSIC/SP Mail and Office Applications Guide* and briefly described in *Chapter 7 - Additional Features* of this guide.

CM (Course Management Facility) is a system for teachers to help them manage course material (notes, assignments, etc) and communicate with their students. Help is provided once the facility is invoked.

CI (Course Information) provides students with a menu facility that works in conjunction with CM (described above).

Note: The general concepts of FSI are similar to other menu facilities on MUSIC. The Editor program and the electronic mail program can be accessed from either FSI or TODO. No matter which working environment you choose to start with, you can always access other programs on MUSIC that are not on the current menu.

File System

Files are collections of typed lines or records. They may contain programs, data, word processing documents, etc. File ownership is based on your userid (excluding a subcode if any). You control the access to your private files. The limits for the size of a single file and the number of files you can have are included in your MUSIC profile (see the PROFILE program in *Chapter 7 - Additional Features*).

You assign file names to identify your files. MUSIC maintains a library (directory) of the files you create. This library can be listed in a variety of ways. It can be listed by date, alphabetically, with or without file information. Also, instead of looking at your whole library, you can list only file names beginning with a common prefix. You can also manage your files by creating different directories within your library. More information about managing files is given in *Chapter 5 - File Management*.

MUSIC maintains a public library of files that can be accessed by everyone. These public files include MUSIC programs such as FSI, MAIL, etc. When you request a file, MUSIC checks your library first before searching in the public library.

What is the Editor?

The Editor is the MUSIC program that is used to create and revise files. Often we just use the term *edit* to refer to the process of revising (or editing) a file using the Editor.

The Editor is an integral part of MUSIC and is used often. Other programs on MUSIC invoke the Editor for collecting data. For example, the Mail program uses the Editor when you are typing the text of your message. The Editor is described in *Chapter 3 - Using the Editor*.

Displaying Online Information

There are several methods for displaying information on the computer. MUSIC includes a general help facility as well as help screens for each program. The general help facility describes other programs for displaying information, such as: electronic bulletin boards, conferencing, and online MUSIC publications. Information about MUSIC's general help facility can be found in the topic "Getting Help" in *Chapter 2 - Getting Started*.

Word Processing

MUSIC supports three word processing programs: MUSIC/SCRIPT, IBM DisplayWrite/370 (5665-460), and Waterloo SCRIPT (WATCOM Products Inc.).

MUSIC/SCRIPT is included with the MUSIC system and is briefly described in *Chapter 7 - Additional Features*. In addition, MUSIC provides other programs to aid the word processing user. These programs include: ones to check spelling, form a table of contents, and create an index. (Throughout this guide we refer to MUSIC/SCRIPT whenever we use the term SCRIPT unless otherwise mentioned.) Complete

documentation can be found in the *MUSIC/SP Mail and Office Applications Guide*.

IBM DisplayWrite/370 (5665-460) is an optional IBM program that may be available at your installation. This program is a host-based text editor and formatter.

Waterloo SCRIPT is a powerful and versatile text formatter, written and distributed by the University of Waterloo. (It may or may not be available at your installation.)

Workstations

The term *workstation* refers to the device used to communicate with the mainframe computer. This device can be either a terminal or a personal computer. A common type of terminal is an IBM 3270. A "3270-type" workstation has either 3270 architecture or connects to the computer through a protocol converter to emulate a 3270. When personal computers (PCs) are connected to MUSIC, they often emulate a 3270 terminal.

Although ASCII workstations are supported on MUSIC, this guide describes 3270 workstations as these are more common. (ASCII terminals with video displays may also emulate 3270 terminals if they are connected via a protocol converter.)

Note: In this guide, whenever the term *terminal* or *workstation* is mentioned it can mean a "real" 3270 terminal, a 3270-type terminal, or a PC emulating a 3270.

Screen Messages

The following messages appear at the bottom of the screen when you are on the MUSIC system:

Reading	MUSIC is waiting for instructions.
Writing	MUSIC is currently writing information on the screen. (Since new screens of information appear quickly you will rarely see this message.)
Working	The computer is processing your instructions. Wait until your request is finished (when the message <code>More...</code> or <code>Reading</code> appears).
More...	The computer is waiting for you to press ENTER to go to the next screen.
Attn	When this message appears, you are in Break mode. The PA1 key brings you to this mode, then you can enter a blank line to continue or type /CANCEL to terminate whatever activity is in progress.
X [msg]	When the "X" message appears at the bottom of the screen, you cannot enter information (the keyboard becomes locked). There are three reasons why this message can appear: X = SYSTEM The system is working on your instructions. X = - O - The cursor is out of bounds. Press RESET and move the cursor back in bounds with an arrow key. X = other The system has gone down or is hung due to hardware or software problems.

Important Keys on your Workstation

To use MUSIC effectively, it is important to understand the keyboard on your workstation. This guide assumes that you are using a 3270-type terminal with the keys listed below. Make sure, if your workstation

is not a real IBM 3270 terminal, that you know which keys on your keyboard correspond to 3270 keystrokes. For example, on an IBM PC with 10 function keys, F1 - F10 is equivalent to PF1 - PF10 on a 3270, and Alt-F1 and Alt-F2 are equivalent to PF11 and PF12 (some PCs except Shft-F1 and Shft-F2 for PF11 and PF12.)

The following keys are needed to use MUSIC effectively:

12 PF keys	<p>PF (Program Function) keys are used extensively on MUSIC. Some workstations have 24 PF keys, but 12 keys are sufficient for MUSIC programs. Throughout this guide the term PF key and function key (F key) mean the same thing.</p> <p>Use F1 to access help and F3 to exit the current screen or program. The definitions of the other keys depend on the program you are using at the time.</p> <p>There are command equivalents for every function key if your workstation does not have these keys, but it easier to work with them.</p>
ENTER	You need to press ENTER to register your typed input to the computer.
PA1	For some programs PA1 allows you to exit a program immediately. At other times, the PA1 key is used as an attention key.
PA2	<p>This key is used to interrupt a program to signal MUSIC that you want to change to another MUSIC session. At other times the PA2 key can be used as a clear key.</p> <p><i>Note:</i> Most users do not need to request more than one MUSIC session and therefore, this feature of MUSIC is not described in this guide. For information about multi-sessions refer to the <i>MUSIC/SP User's Reference Guide</i>.</p>
Cursor keys	There are several arrow keys on your keyboard for moving the cursor either up, down, right, left, tabbing, etc.
TAB Key	This key is used to skip to each input field on the screen. Some workstations have a NEW LINE key (an arrow that points down and to the left) that also skips to input fields.
Insert & Delete	These local editing keys are used to insert and delete characters on the current line.

The figure below shows the important keys to understand in order to use your workstation effectively. Please read this section carefully before signing on to the computer for the first time.

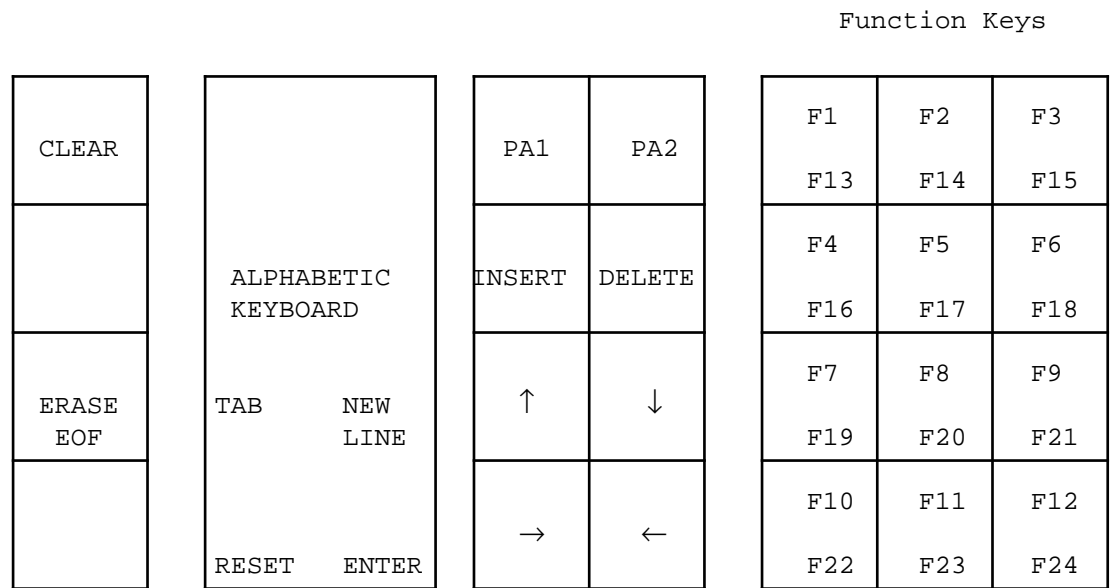


Figure 1.3 - Important Keys on your Workstation

The layout of your keyboard may vary from the diagram above. Some workstations have 12 or 24 function keys along the top of the keyboard. If your keyboard has only 12 keys, you can hold down the SFT, ALT, or CTL keys while pressing F1 to F12 to access F13 to F24 (depending on your workstation). Unless you define your own function keys, 12 keys are all that is needed with MUSIC.

There are two types of keys on the keyboard: local editing keys and action keys. Both are described below.

Local Editing Keys

A 3270-type terminal stores in its own memory (not the computer's) the lines displayed on the screen. Changes can be made to the lines you have typed **without** interacting with the computer by using local editing keys. These keys and their functions are described as follows:

<u>Key</u>	<u>Function</u>
INSERT	Allows for insertion of characters at the current cursor position. Note that, depending on your workstation, either the the RESET key ends inserting or pressing INSERT a second time ends inserting. Once inserting is turned off, you can then type over characters again. (On some workstations this key shows the letter "a" with the ^ symbol on top.)
DELETE	Deletes one character at the current cursor position. (On some workstations this key shows the letter "a" with the delete symbol through it.)
ERASE EOF	Erases the remainder of a line from the current cursor position.
RESET	Cancels INSERT mode or unlocks the keyboard.

Characters can be replaced by first positioning the cursor at their location and then typing over them (replace mode). The cursor position can be changed by using the various arrow keys on the keyboard.

The cursor shows your current position on the screen. The cursor moves as you type. The TAB key (-->|) is used to skip from one input field to the next.

Action Keys

The keys that cause an interaction with the system are called "action keys". They are: ENTER, the function keys F1 to F24, CLEAR, PA1, PA2, and TEST REQ.

The computer does not know that you have typed information until you press an action key (most often the ENTER key). Use the ENTER key to flip to the next screen whenever the message `More . . .` appears in the bottom right corner.

Note: You can make corrections to your text before you press ENTER by using the local editing keys described above.

General

MUSIC/SP stands for "Multi-User System for Interactive Computing / System Product". For short, it is called "MUSIC".

- It is an operating system for mainframe computers.
- It provides access to many programs to do such tasks as create files and send electronic mail.
- MUSIC/SCRIPT is a word processing program that is part of MUSIC, it is described in *Chapter 7 - Additional Features*.
- Menu facilities provide easy access to many programs on MUSIC.
- Interfaces to several language compilers and processors are available along with many other programming tools.

Userids

- A userid and password are given to each person to authorize their use of the system.
- A profile is set up for your userid to define such things as: limits for file size and storage, working environment, sign-on password, etc.

Editor

- It is used to create and edit files.
- It is also used by other MUSIC programs to collect data.

Workstations

- 3270-type workstations are used often with MUSIC and their operating characteristics are described in this guide.
- Personal computers can emulate 3270 terminals when they are connected to MUSIC.
- Local editing keys are used to correct mistakes before an action key transmits the data.
- The ENTER key is used to transmit data to the computer.
- The TAB key is used to move from one field on the screen to another.

Chapter 2. Getting Started

Chapter 2. Getting Started

Overview

This chapter intends to give you some hands-on experience with the fundamentals of MUSIC. Before proceeding, it is important that you know how to use the proper keys as documented in *Chapter 1 - Introduction*. Refer to the glossary at the back of this guide if you encounter an unfamiliar term.

This chapter explains how to:

- Sign on to MUSIC
- Start FSI (Full Screen Interface)
- Get Help
- Change your password
- Sign off from MUSIC

Connecting to MUSIC

Before you can sign on to MUSIC you must power on your workstation and follow certain steps until MUSIC displays the MUSIC logo:

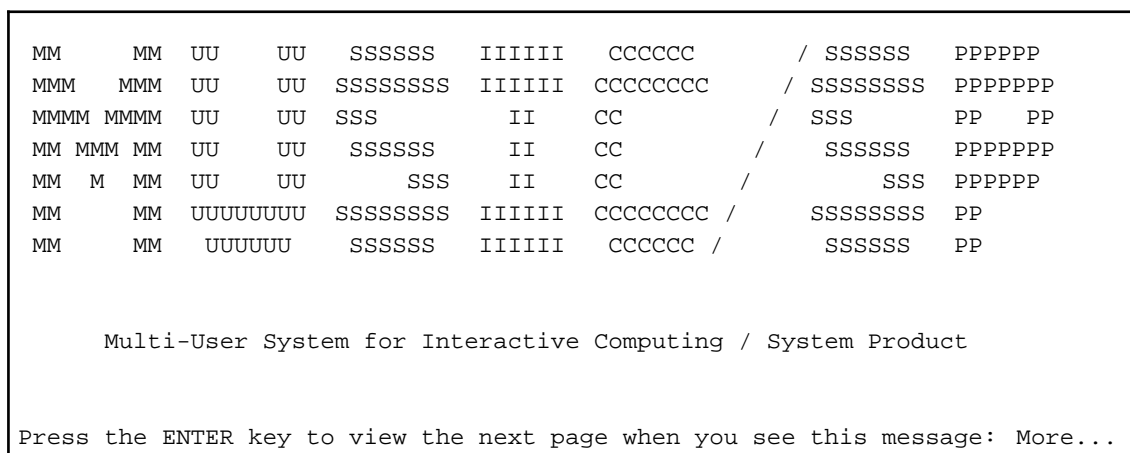


Figure 2.1 - MUSIC/SP Logo

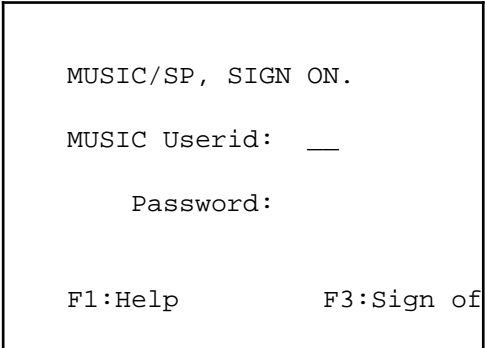
The steps to making the connection to MUSIC involve certain commands that you type or keys that you press. For example, some users may need to type "dial music" to connect to MUSIC. Since there are many types of workstations and several ways to connect to the mainframe, these steps cannot be described here.

Check with someone at your installation for the correct procedure.

Once connected, MUSIC displays a 3270 full screen image on most types of workstations, including Personal Computers. For this reason, the guide concentrates on 3270-type terminals. (For more information about workstations, refer to *Chapter 1 - Introduction*.)

Signing On

Once you have made the connection to MUSIC and you see the logo (figure 2.1 above), you should press ENTER to see the sign-on screen. Here is a sample of what the MUSIC sign-on screen looks like:



```
MUSIC/SP, SIGN ON.  
  
MUSIC Userid:  ____  
  
Password:      ____  
  
F1:Help      F3:Sign off
```

Note: Notice that the cursor (__) is automatically where it should be for you to enter your userid.

1. Type in your userid, press the TAB key to put your cursor in the password field.
2. Type in your password (it does not show as you type), press the ENTER key.

MUSIC responds with information on when your userid was last used, the date and time of this sign-on, and your workstation port number. The first time you use MUSIC you may be prompted to enter your name. Lastly, MUSIC displays the working environment that is set up for your userid.

Working Environments

The working environment when you sign on to MUSIC, will be either MUSIC's command mode (*Go mode) or a pre-set program. Most new users have the FSI (Full Screen Interface) program set up for their userid. This has been previously specified in your MUSIC profile by a system administrator.

*Go Mode

After signing on, MUSIC displays the following messages on the screen for MUSIC's command mode:

```
*Code last signed on 09:11 Jun 26, 1990
*Sign-on TUE JUN 26, 1990, Time=11:21, Port=0BD, TCB=113
*Go
```

*Figure 2.2 - *Go Mode*

When MUSIC displays the *Go message on the screen you are in MUSIC command mode. In this mode you can enter MUSIC commands. These commands are described in *Chapter 8 - MUSIC Commands*; but it is not necessary to learn them at this time.

If you have the *Go message on your screen when you sign on, type "FSI" and press ENTER to use the Full Screen Interface.

FSI (Full Screen Interface)

The Full Screen Interface (FSI) allows you to access various components of the MUSIC system through a series of selection menus. Enter the command FSI from command mode (*Go) to start the interface. You can specify FSI as the auto-program in your user profile if you wish to have it automatically started when you sign on to MUSIC.

Throughout the interface the following standard function key definitions are used.

F1	Provide detailed information on the function and usage of the screen currently being viewed.
F3	Return to the previous screen without performing any operation. This can be used to exit from the interface if pressed in the main selection menu.
ENTER	Perform the operations indicated on the screen.

Main Selection Screen of FSI

```
Help   End   Up     Down   Top     Bottom Main   Scan   Find   Topic  Quit
-----Full Screen Interface for MUSIC----- Page 1/1
Command ==>
Date: 16Jun94 13:50:52                                Updated: 09Jun94 15:00
Place the cursor on an item and press ENTER or RETURN.

MUSIC tools:
  Mail           Electronic mail facility
  Programming    Compilers, processors, tutorials, etc
  CI             Course Information
  Internet       Internet access, news reader, gopher, etc
  More           Other general MUSIC tools

MUSIC files:
  FLIB *         Full Library Screen for current directory
  FLIB           Filespec=>                                < pattern
  FUTIL          Other file related utilities

MUSIC environment:
  Help           General help and online documentation
  New Password   Change your password
  Defaults       FSI customization
  Profile        Profile utility and options
  Disconnect     Terminate your session and disconnect from MUSIC
  \Suggest       Make a suggestion or send a comment to support staff

F1=Help      F3=End      F9=Find      F12=Retrieve
```

Figure 2.3 - Main Selection Screen of FSI (Full Screen Interface)

Note: This guide focuses on FSI as it provides instruction and exercises based on this facility. The items on the menu (figure 2.3) will be described throughout this guide.

Getting Help

Help is provided on MUSIC when you press the F1 key or type the command "HELP" in the command area of the screen. The information that is displayed depends on where you are at the time you press F1. For example, if you are on the main menu of FSI, you will receive general information about FSI.

Each program that you use has it's own help facility. Some programs provide different help text depending on which screen you are working with. This is called "screen-sensitive" help. Other programs provide "field-sensitive" help that depends on where you are on the screen when you press F1.

Highlighted Topic Names

When topic names are highlighted on the help screen, you can place your cursor on the highlighted name and press ENTER to view that topic. Use the TAB key to position your cursor on these highlighted names.

MUSIC's General Help Facility

MUSIC's general help facility is accessible by choosing item 11 (tutorials) from FSI's main menu, or by typing "HELP" or pressing F1 from *Go mode. This facility provides a list of available topics. If you know what topic you want ahead of time, you can type the command "HELP topicname". For example, if you want help on MUSIC commands you can type "HELP COMMANDS" when you are in *Go mode.

Editor's Help Facility

Another major help facility on MUSIC is the Editor's help facility. This is accessible by pressing F1 or typing "HELP" when you are using the Editor program. This gives a list of help topics for the Editor. If you know which topic you want ahead of time, enter "HELP topicname" in the command area of the Editor. For example, "HELP MOVE" gives information about moving text.

Changing your password (Exercise 1)

One of the first things that most new users want to do is change their passwords. Often the password that is first assigned to your userid is hard to remember. It is important, when choosing a new password, to pick something that is easy to remember by you but hard to guess by someone else.

In this section you will learn the steps for changing your sign-on password. Each time you sign on to MUSIC you will need to type this password after your userid.

Step 1 **Begin with the FSI main menu and choose the topic "New Password".**

The following screen should appear:

The NEWPW command lets you change your MUSIC sign-on password.

You will be asked to first enter your current password, in order to verify your identity. You will then be asked to enter the new password twice. Please choose a password that will not be easy for someone else to guess.

Note that, for security reasons, the passwords do not display on the screen as you type them. This is normal.

You can cancel at any point by entering /CANCEL

User Profile

Enter your current MUSIC sign-on password

?

-----T-----T

—

Reading

Figure 2.4 - Changing Your Password

Before continuing, here are some important points to remember:

1. Sign-on passwords can be composed of any characters, and may be from 1 to 8 characters long. Don't use blank spaces. It is recommended that you use at least 6 characters and that you don't choose a name or word unless you include other characters. For example, JOHN1 is harder to guess than JOHN.
2. Your password does not show as you are typing. You will be asked to type it in twice for verification.
3. You can cancel (exit) at any time during this procedure. Your password is not changed until you receive the message "CHANGED".
4. Remember your new password. You will need it the next time you sign on.

When you select the "New Password" topic (step 1) from the main menu, FSI invokes the NEWPW program of MUSIC. This program asks you to type information when you see the question mark (?). For added security, the text you type in will not show on the screen.

Step 2 Type your current password.

The following message appears:

```
Enter a new MUSIC sign-on password (1 to 8 characters)
?
```

Step 3 Enter your new password.

The following message appears:

```
Please enter the new password again (to check for typing errors)
?
```

Step 4 Enter your new password a second time.

Finally the message "CHANGED" is displayed on the screen, as shown in figure 2.5 below. (During this procedure you may encounter the "More..." message. Press ENTER to proceed.)

```

Please enter the new password again (to check for typing errors)
?

CHANGED
Your password has been changed. Please remember it.

-----T-----T
Press ENTER to resume FSI                               More...
```

Figure 2.5 - Profile Program Messages

Step 5 Press ENTER as instructed on the bottom of the screen to return to FSI.

Signing Off

When you are finished with MUSIC you need to terminate your session and close accounting for that session. Once you sign off, the system disconnects the hook up (ie. telephone line) to the computer. The connect time and service units are displayed, giving a rough indication of the cost for the session.

Signing Off from FSI

To exit FSI and sign off from MUSIC, choose the topic "Disconnect" from the main menu of FSI.

Another way to sign off MUSIC is to use the /OFF command. From any FSI screen you can enter "/OFF" in the command area to exit FSI and sign off MUSIC.

WARNING: Always remember to sign off after you have finished your session. If you do not, someone may come along and start using your userid --

- using the funds your userid has been assigned
- looking at your files
- changing or purging your files

Signing On and Off MUSIC

- Before signing on to MUSIC, find out at your installation about connecting to the computer.
- Sign on with your userid and password.
- Don't forget to sign off from MUSIC with the /OFF command or choose "Disconnect" from the main menu of FSI.

FSI

- FSI is short for Full Screen Interface.
- The FSI facility will start automatically or you will need to enter the "FSI" command when you see the *Go message.
- You can access many programs by selecting items on the FSI main menu.

Help

- Use the F1 key whenever you need help.
- There are different help facilities for each program on MUSIC.

Changing your Password

- Change your password frequently for added security.
- Your password can be 1 to 8 characters long composed of any characters.
- Pick something that is easy to remember by you but difficult for others to guess.

Chapter 3. Using the Editor

Chapter 3. Using the Editor

Overview

The Editor program is used to create and edit files. This chapter describes how to use the Editor in full screen mode for 3270-type workstations. If you wish to use the Editor in line mode refer to the *MUSIC/SP User's Reference Guide*.

This chapter explains:

- Basic Concepts of the Editor
- Creating and Saving a New File
- Editing Files
- Function Keys and Editor Commands

There are two exercises in this chapter. Exercise 3a is a short exercise to show you how to create a new file. Exercise 3b teaches you editing techniques for revising files.

Editor Concepts

Before using the Editor for the first time, there are some concepts you should understand. You need to know about: rules for choosing file names, Editor modes, and an overview of the steps needed to start and end an edit session.

File Names

Each file name can be up to 17 characters in length (if subdirectories are used, the total name length can be more than 17 characters). Each character of the name can be any letter (A-Z) or any number (0-9) or any of these special characters:

~ ! @ # \$ % & _ + .

The exception to the above rule is that the first character of the name cannot be any of the following:

~ ! % & _ + .

and should not be the @ symbol as files starting with @ are reserved for program generated files. Blank spaces cannot be used. The name can be typed using either upper or lower case letters, as lower case letters are converted to upper case automatically by MUSIC for file names. Some examples of valid file names are:

ABC letter2 \$ memo.may.90

For more information about naming files, see the topic "Tips on Managing File Groups" in *Chapter 5 - File Management*.

Important Note:

MUSIC maintains a public library which consists of all the public programs such as: FSI, TODO, EDITOR, MAIL, etc. Do not use the same names as public files. MUSIC will always check your library first before going to the public library. For example, if you call a file "FSI" then you won't be able to use MUSIC's FSI facility unless you rename your file.

Editor Modes

The Editor has two modes of operation: Input mode and Command mode. You can go back and forth between modes by using the F11 (INPUT) and F12 (COMMAND) keys.

Input Mode Input mode is used for typing in data. Your edit session begins in input mode for new files. The message

* Input Mode *

appears near the bottom of the screen. From command mode, position the cursor where you want to enter the new lines and press F11 (INPUT). Use this method for input whenever you have a number of lines to type.

While in input mode, use the TAB key to end each line and skip to the next. When you run out of room for new lines on the screen, press ENTER to open up more space. When you have finished typing your text, press F12 to return to command mode. The ENTER key is used when the screen is filled to record the data and open up more blank lines.

Command Mode Command mode is used for editing data. Your edit session begins in command mode for existing files. The message:

Command :

appears near the bottom of the screen. From input mode, you go to command mode when you press F12 (or any other function key). In command mode you can page up and down through your file and enter commands to locate and change text.

Starting and Ending an Edit Session

The diagram below is an overview of the necessary steps for using the Editor through the FSI facility. You can also invoke the Editor by using the MUSIC command called "EDIT" (see *Chapter 8 - MUSIC Commands* for information).

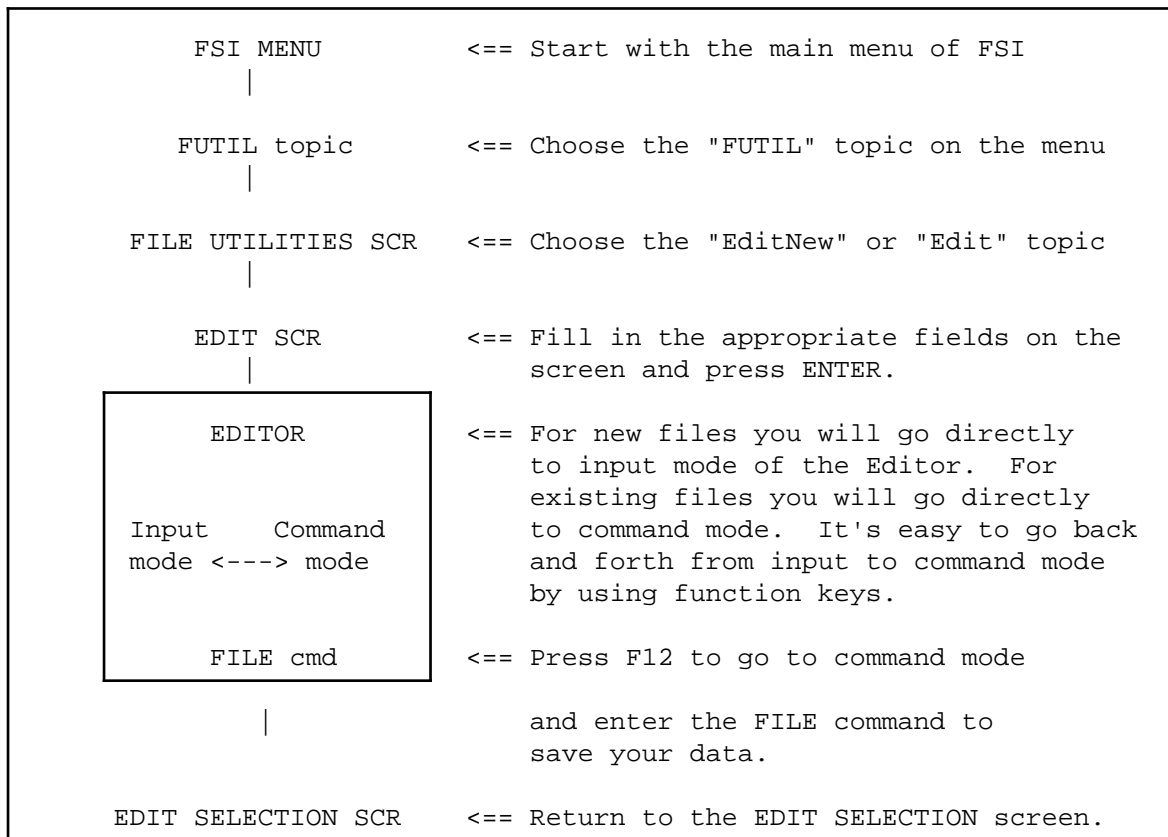


Figure 3.1 - Steps for Using the Editor from FSI

Creating and Saving a New File (Exercise 3a)

In this section you will learn to create a new file by doing the following:

- starting the Editor
- typing in your data
- ending the Editor (saving your file)

For this exercise, you will create a new file called TRY.EX. Editing functions such as deleting and inserting lines, are not covered in this exercise. They are described later in the topic "Editing Files". For now, it is important just to create a new file and not worry about editing it.

There are many diagrams throughout this exercise illustrating each screen display. For each step the instructions that you perform are printed in bold. If you wish to start the exercise over at any time, press the F3 key for quit.

Between each of the 8 steps are details about the Editor. *It is important to read the whole section carefully and not to skip from one step to the next without reading the text in between.*

The file that you create in this exercise will be needed in exercise 3b later on.

Starting the Editor

Step 1 **Begin with the FSI main menu and choose the "FUTIL" option.**

This selection presents the FILE UTILITIES screen.

Step 2 **Select the "EditNew" topic. (Move your cursor to that topic and press ENTER.)**

This selection causes the FSI interface for the Editor to appear. Figure 3.2 below illustrates the EDIT NEW screen.

Help	End	Up	Down	Top	Bottom	Main	Scan	Find	Topic	Quit
-----Edit New-----										Page 1/1
Command ==> _										
Date: 16Jun94 11:47:53						Updated: 06Jun94 16:15				
Fill in the fields and press ENTER or RETURN.										
Current directory => \										
File =>										<
Rec length => 80 < number between 1 and 8192										
Rec format => FC < FC,F,VC,V										
Text => L < U-upper case, L-lower case, blank-auto										
F1=Help F2=Ask F3=End F7=Up F8=Dn F9=Find F10=Top F11=Bot F12=Ret PA1=Quit										

Figure 3.2 - Edit New Screen

Note: It is possible that some of the empty fields shown in figure 3.2 may not be empty on your screen. This is because any previous information used with this screen is retained for later use.

Step 3 **Fill in the fields on the Edit New screen using the information below. Use the TAB key to skip to each input field.**

<u>In field:</u>	<u>Type:</u>	<u>Comments</u>
Current Directory		Shows the current directory (you cannot type in this field).
File	TRY.EX	If there is text already in this field, just type over it.

Rec length 80

The record length is normally 80 characters on a line by default. Use 80 unless you specifically need another record length. The record length can range from 1 to 8192 characters per line.

Rec format FC

The record format is normally FC (Fixed Compressed) by default. Unless you know specifically that you need another format, leave the record format as FC. "F" means that the length of each line is fixed even if it's not full. "C" means MUSIC stores the data in a compressed format and regenerates the file each time it is needed. Other options are: F (Fixed), VC (Variable Compressed), and V (Variable).

Text

"L" specifies that you want to retain lower case letters in your file. "U" specifies that you want all lower case letters converted to upper case. By leaving the field blank, the Editor assumes mixed case for new files.

Once you have filled in the appropriate fields, your screen should look like figure 3.3 below.

```
Help   End   Up     Down   Top    Bottom Main   Scan   Find   Topic  Quit
-----Edit New-----Page 1/1
Command ==> _
Date: 16Jun94 11:47:53                               Updated: 06Jun94 16:15
Fill in the fields and press ENTER or RETURN.

Current directory => \

File => try.ex_                                         <

Rec length => 80   < number between 1 and 8192

Rec format => FC   < FC,F,VC,V

Text          => L   < U-upper case, L-lower case, blank-auto

F1=Help  F2=Ask F3=End F7=Up F8=Dn  F9=Find  F10=Top  F11=Bot F12=Ret PA1=Quit
```

Figure 3.3 - Starting a new file called TRY.EX

Step 4 Press the ENTER key after filling in the fields on the Edit New screen to go to the Editor.

When you start a new file the Editor goes directly to input mode with your cursor on the first line of an empty screen (figure 3.4). In the bottom left-hand corner you should see the message "***EDIT***" indicating that you are now in the Editor program. Your screen should look like figure 3.4 below with the message "***Input Mode***" at the bottom. If it does, continue to the next topic called "Screen Display for Input Mode".

If your screen is similar, but the message "***Input Mode***" is not at the bottom of the screen, but instead you have a command area, press F11. If your screen is still not the same as figure 3.4, press F3 until you are back at the EDIT NEW screen and repeat step 3.

```

TRY.EX                                L 80   W 1 72   Rec 1/0
-

-----T--1-----2-----3-----4-----5-----6-----7--
                        * Input Mode *
** File has lower case characters or is new - assuming TEXT LC
                                         Reading
Default PFs: 1:Help    2:Split    3:Quit    4:Mark    5:Center  6:Del line
*EDIT*      7:Uppage   8:Downpage 9:Locate 10:Ins line 11:Input 12:Command

```

Figure 3.4 - Screen Display for Input Mode

Screen Display for Input Mode

You are now in input mode of the Editor and are ready to type in your text.

Note: At some installations the default Editor includes a prefix area in the left margin. The screen display differs slightly from figure 3.4 with the characters "====" showing in the margin. The instructions below are the same regardless of the default setting.

Before continuing, here is an explanation of the messages that appear on the screen in figure 3.4.

TRY.EX	The name of the file is shown in the upper left hand corner.
L 80	The logical record length (L) is the maximum number of characters allowed per line. The default is 80 characters for MUSIC files.
W 1 72	Columns 1 to 72 are shown on the screen (window). In most cases this is sufficient room to type your data. (The WINDOW FLIP command changes the window to show columns 9 to 80. Editor commands are described later in this chapter.)
Rec 1/0	The current number of records (lines) in this file is displayed in the upper right hand corner. This file is empty so it shows you are on line 1 of 0 lines.
1-----2 etc.	This line of numbers and dashes near the bottom of the screen is a scale line showing the column numbers.
* Input Mode *	Indicates that you are in input mode of the Editor. In this mode use the TAB key to end each input line.

** File has lower...	This message warns you that lower case characters are preserved. Use the editor command TEXT UC if you wish to have the editor automatically convert characters to upper case as text is entered.
Reading	This message appears in the bottom right hand corner on MUSIC whenever it is waiting for instructions.
Function Keys	The Editor default definitions for function keys are displayed at the bottom of the screen.
—	This symbol is the cursor. In figure 3.4 above, it is positioned on the first line of your empty file.

Input of Data

There are a four important rules to know about before continuing to step 5. Take the time now to understand and learn the correct procedures.

1. You can correct typing mistakes on the line you are currently typing by using the BACKSPACE key or <-- key. Just backspace over the incorrect characters and retype.
2. When in input mode, use the TAB key to skip to the next line, rather than the ENTER key. The TAB key shows an arrow pointing to a vertical line (-->|). (The TAB key is a local key and does not interact with the system.) Once the screen is full or nearly full with input lines, press the ENTER key to get a fresh screen.
3. It is important to stay inside the boundaries (in the input area) on the screen. You can go out of bounds by moving the cursor with some of the arrow keys (-->, <--, etc.). If your cursor is accidentally moved out of the input area and you try to type, the keyboard becomes LOCKED. Press the RESET key to unlock the keyboard, and use the TAB or arrow keys to move the cursor back to the input area.
4. When adding blank spaces between words, use the SPACEBAR and not the right arrow key (-->). Arrow keys are for moving the cursor around the screen. In the example below, the line was typed using the incorrect --> key for spaces. Notice the results after the ENTER key is pressed.

	<u>Before</u>	<u>After</u>
10	FORMAT(' THE ROOT IS')	10FORMAT('THEROOTIS')

Step 5 **You can now begin to type in your document using the text in figure 3.5. Try to type the lines as you see them in the figure. Remember the 4 rules above.**

```
TRY.EX                      L 80   W 1 72   Rec 1/0
  Using the Editor

  The Editor is used to create and revise files.
  The proper way to type in lines of text is to use the
  TAB key to end each line.
  Use the ENTER key when you have filled the screen.
  After you have typed in your text, use the
  "FILE" command to save your file and end the edit session._

-----+T--1-----+---2-----+---3-----+---4-----+---5-----+---6-----+---7--
                                * Input Mode *

Default PFs: 1:Help    2:Split    3:Quit    4:Mark    5:Center  6:Del line
*EDIT*      7:Uppage   8:Downpage 9:Locate 10:Ins line 11:Input 12:Command
```

Figure 3.5 - Screen display for typing text in Input Mode

Ending the Editor

Step 6 **Once you have finished typing your file, press F12 (Command) to bring your cursor to the command area.**

The Editor will switch to command mode and your screen should look like figure 3.6 below.

```

TRY.EX                                L 80   W 1 72   Rec 8/8
*Top of file
Using the Editor

The Editor is used to create and revise files.
The proper way to type in lines of text is to use the
TAB key to end each line.
Use the ENTER key when you have filled the screen.
After you have typed in your text, use the
--> "FILE" command to save your file and end the edit session.
*End of file

-----T--1-----2-----3-----4-----5-----6-----7--
Command: _

Default PFs: 1:Help    2:Split    3:Quit    4:Mark    5:Center  6:Del line
*EDIT*      7:Up page  8:Down page  9:Locate 10:Ins line 11:Input 12:Command
Reading

```

Figure 3.6 - Screen Display for Command Mode

The information displayed on the top of the screen remains the same for input or command mode of the Editor. Other messages on the screen include:

*Top of File This line appears when you are at the top of your file.

*End of File This line indicates that you are at the bottom of your file.

Command: This is the command area of the Editor. You can type Editor commands in this field. To get the cursor to this area use the F12 or TAB key. (MUSIC commands can be typed in this area too. The Editor first checks if the command is an Editor command before issuing the MUSIC command. See *Chapter 8 - MUSIC Commands* for more information.)

--> This line pointer indicates your current position in the file. The number "8" at the top middle of the screen in figure 3.6 shows what line number the pointer is at.

Note: At some installations, the default editor includes a prefix area. The line pointer would look as follows: >=====

Step 7 With the cursor in the command area, type the command: FILE and press ENTER to store your document.

This document is now stored in the MUSIC Library under your userid. The Editor saves the document using the name displayed on the top of the screen (figure 3.6). After you type in the command, the system responds with the message:

```

TRY.EX
New file, saved

```

assuring you the document has been saved under the name you provided.

Step 8 Follow the instructions at the bottom of the screen: Press ENTER to return to the Edit Selection screen. Then, press F3 to return to the FSI Main Selection screen.

Note: Sometimes when you issue the FILE command the following message appears:

```
File already exists. Do you want to replace it?
```

This message is displayed if you already have a file with the same name as the file you are working with. Answer "no" and re-issue the FILE command with another name. Example:

```
FILE try.ex2
```

IMPORTANT: The file you created (TRY.EX) in exercise 3a will be used again later in this chapter for exercise 3b.

Editing Files

This next section deals with the procedures for editing files. The following topics are covered:

- Common Editing Functions
- Editor Commands
- Editing an Existing File (Exercise 3b)

Once you become familiar with the Editor, you may want to try more complicated editing methods than described in this guide. A complete description of the Editor can be found in the *MUSIC/SP User's Reference Guide*.

IMPORTANT: It is important to understand that you are working with a copy of the original file when you are editing. The original file is not changed until you issue the FILE, SAVE or EXECUTE command. You can use the F3 (Quit) key if you want to quit and not save any changes.

Common Editing Functions

This topic covers the most common editing functions. When you need to do more complicated editing, like moving text, or making global changes, refer to the next topic "Editor Commands".

Local editing keys and function keys are used to perform most editing tasks. The exception being the FILE command, which is used to end your edit session. The following describes the most common editing tasks:

Making Changes on the Current Screen

Make changes to the text displayed on the current screen by moving the cursor to that position and typing over the existing text. Some areas of the screen, such as the title line, are protected and cannot be changed. If you attempt to type in one of these areas, the keyboard will lock. Press RESET to unlock the keyboard, so you can move the cursor to a valid input area.

Moving the Cursor

There are several arrow keys for moving the cursor on the screen.

← up	→ down	< left	> right	> tab	< tab
---------	-----------	-----------	------------	-----------	----------

Be careful not to move out of the input area with the UP, DOWN, LEFT, and RIGHT arrow keys. Use the TAB key to skip to the next line. (Remember to use the SPACEBAR when you want to add blanks and text to the end of a line. The arrow keys only appear to leave spaces. As soon as an action key is pressed, the blanks disappear.)

Paging Up and Down

To see the previous screen use the F7 key (UPPAGE). To see the next screen use the F8 key (DOWNPAGE). When you need to see part of the previous or next screen, position your cursor on a line and press F5 to center that line on the screen.

F7 uppage	F8 downpg	F5 center
--------------	--------------	--------------

Commands such as TOP, BOTTOM, and LOCATE can also be used to move up and down in your file. They are described later in the topic "Editor Commands".

Inserting and Deleting Characters

Two important keys for editing are the INSERT and DELETE keys. They are local editing keys and should not be confused with the function keys F10 key (INSERT LINE) and F6 key (DELETE LINE).

Insert â	Delete ä
-------------	-------------

Insert Key Position the cursor where you want to insert new characters and press the INSERT key. Type in the desired character(s). The new characters are placed in front of the old text. If you fill up the entire line the keyboard will lock. If you need more room, position the cursor where you want to end the line and press F2 to split the line in two.

Either the word INSERT or a symbol appears at the bottom of the screen indicating that INSERT mode is in effect. To cancel INSERT mode, press the RESET key or the INSERT key a second time, depending on your workstation.

Delete Key Position the cursor on the characters to be deleted. Press the DELETE key to remove each unwanted character.

Inserting and Deleting Lines

There are two function keys for inserting lines and one function key for deleting lines. To use these keys, position the cursor on a line and press the appropriate key. If the cursor is in the command area, the line

pointer (-->) indicates where to insert or delete.

F10 Ins line	F11 Input	F6 Del line
-----------------	--------------	----------------

Ins Line Position the cursor on a line and press F10 to insert 1 blank line after the line the cursor is on.

Input Position the cursor on a line and press F11 to go to input mode. When you have several lines to add, input mode is more efficient than pressing the F10 (Ins line) key for each new line.

Press F12 (Command) to return to command mode. (F11 works as a toggle key, it also returns to command mode, but the cursor is left on the current line.)

Del line Use F6 to delete the line the cursor is on.

FILE and QUIT Commands

When you are ready to save your file and exit the Editor, do the following:

F12 Command	+ FILE	<ul style="list-style-type: none">- press F12 to go to the command area- type the command: FILE- press ENTER
----------------	--------	---

If you do not want to save any changes, press F3 (Quit).

Getting Help for the Editor

Press F1 to get help for the Editor. A list of topics is displayed for you to choose from. For help on a particular command, do the following:

F12 Command	+ HELP cmdname	<ul style="list-style-type: none">- press F12 to go to the command area- type the command: HELP with a command- press ENTER
----------------	----------------	--

Editor Commands

Editor commands are issued in the command area on the screen. In command mode you can move into the command area using the TAB key or F12 key. In input mode, press F12 to go to the command area.

Commands can be typed in upper or lower case letters. After entering a command, you must press ENTER to have the Editor process it. An example of an Editor command is "FILE".

Note: MUSIC commands are also allowed from the Editor's command area. Use a slash (/) to distinguish MUSIC commands from Editor commands. You can use the EDIT command to edit another file while remaining in the first edit session. More information about MUSIC commands is in *Chapter 8 - MUSIC Commands*.

There are many Editor commands available for novice and advanced users. This guide will look at the most common commands. For complete documentation on all Editor commands, refer to the *MUSIC/SP User's Reference Guide*, or type "HELP COMMANDS" in the command area.

The following Editor commands are grouped into task-similar categories. Here is a table of the most common commands:

<u>Moving in the File</u>	<u>Changing the File</u>	<u>Working with Marked Groups</u>	
FIND LOCATE TOP BOTTOM	CHANGE MERGE	MARK COPY. DELETE. STORE	UNMARK MOVE. CHANGE.
	<u>Ending the Edit Session</u>	<u>Miscellaneous</u>	
	FILE SAVE EXECUTE QUIT (F3)	HELP DUP NAME PREFIX	PURGE

In each of the boxes below, the Editor command is shown in upper case letters, along with its abbreviation. Any variable information that you supply is shown in lower case characters. Any parameters enclosed in square brackets ([]) are optional.

Moving in the File

Many commands are available for moving around in your file. Some of these commands have been assigned to the following program function keys:

F5 - Center F7 - Uppage F8 - Downpage F9 - Locate

Other commands that are used frequently are described below.

```
LOCATE [string]
L
```

LOCATE locates the first line (after the current line) that contains the specified character string. LOCATE (F9) by itself (without *string*) looks for the next occurrence. For example:

```
L of
```

locates the first line containing the word "of" and moves the cursor to that line in the file.

```
FIND  [string]
F
```

FIND locates the first line (after the current line) that contains the specified character string. The character string must start in column one. If the character string is somewhere else on the line, this command will not find it; use LOCATE instead.

```
TOP
T
```

Moves the cursor to the top of the file. The line before the first line of the file becomes the current line.

```
BOTTOM
B
```

Moves the cursor to the bottom of the file. The line after the last line of the file becomes the current line.

Changing the File

The following are commands that change certain lines or entire files.

```
CHANGE/string1/string2/[g] [*] [v]
C
```

The CHANGE command can be entered alone without specifying any parameters. The Editor Change Screen appears and prompts you to fill in the appropriate fields. Press F1 at this time if you need more help.

If you enter the optional parameters with the command then *string1* is changed to *string2*. Add the optional "g" and "*" to have every line changed from the current line to the end of the file. To change the entire file, go to the top of the file before issuing the command. (See TOP command.)

The slashes ("/") are necessary.

The "g" means "global", the change will be done to all occurrences of the character string on a single line. If the "g" is omitted and only the "*" is specified, then the change is done only once for every line.

The "*" means that the change will be done to the current line and to every other line after it. You can replace the "*" with a number to indicate the number of lines; or you can use a "." to indicate a marked group.

The "v" means "verify" the changes. All the changed lines will be displayed on a separate screen. For example:

```
C/com/Com/g * v
```

changes every occurrence of "com" to "Com" from the current line to the end of the file, then displays the lines that changed on a separate screen.

Note: If you are uncertain of the effect a global change might have on your file, you may want to issue the SAVE command first. This way you can save all changes up to that point. Then, if your CHANGE command doesn't do what you expect, you can quit (F3).

```
MERGE filename [m,n]  
ME
```

MERGE adds a copy of another file, or just part of a file, into the file being edited (after the current line). The command does not affect the contents of the other file, it just copies that file. Position the cursor where you want to add the new text, press F12 and enter the MERGE command. Examples:

```
1. ME program1          2. ME program1 1,10
```

Example 1 merges all of the file called "program1". Example 2 merges only lines 1 to 10 of "program1".

Working with Marked Groups

F4 (mark) lets you mark a group of consecutive lines so that they can then be moved or copied from one part of the file to another. You can also delete a marked group or store it in another file.

```
F4  
MARK
```

To mark a group of lines do the following:

1. Go to the first line of the group you want marked. Press F4 MARK. A vertical bar appears in the left margin marking the start of the group.
2. Go to the last line of the group, press F4. Vertical bars appear beside all lines in the group.

The lines are now *marked*.

Note: Marking a new group of lines will automatically unmark the previous group. You can also use the UNMARK command to unmark the group.

Once the lines are marked, you can copy (COPY.), move (MOVE.), delete (DELETE.), or create a new file (STORE) with these lines. See below for a description of the steps required for each command.

```
COPY .  
CO .
```

1. Mark the required lines.
2. Move the cursor to the line that you want the group copied after, and press F12 (Command).
3. Type "CO." in the command area, press ENTER. (The "." refers to the group of lines.)

The group of lines is copied. The size of your file increases by the number of marked lines.

```
MOVE .  
MO .
```

1. Mark the required lines.
2. Move the cursor to the line that you want the group moved after, and press F12 (Command).
3. Type "MO." in the command area, press ENTER. (The "." refers to the group of lines.)

The group of lines is moved. The size of your file remains the same.

```
DELETE .  
DEL .
```

1. Mark the required lines.
2. Go into the command area.
3. Type "DEL." and press ENTER. (The "." refers to the group of lines.)

The group of lines is deleted. The size of your file decreases by the number of marked lines.

```
STORE filename [APPEND]  
STO [A]
```

The STORE command writes the group of marked lines to an external file. The MARK command (F4) must be used to mark one or more lines before the STORE command can be used.

If the optional APPEND keyword (abbreviation: A) is used following the file name, the marked lines are added to the end of the file, if the file already exists. A new file is created if one does not exist.

For example,

STORE MYFILE

saves marked lines in the file MYFILE. (If the file already exists you are asked if you wish to replace it.)

Ending the Edit Session

The function key F3 (Quit) is used in the Editor to exit the Editor program **without** saving any changes. The following commands are needed to save your changes and update the file stored in your library.

```
FILE [newname]
```

When this command is entered, the Editor saves any changes done during the current edit session, and ends the session.

The original file is now updated unless you changed the file name during the edit session (see NAME command later). Another way to leave the original file alone and change the name is to issue a new name with the FILE command. Examples:

1. file

2. file program2

Example 1 saves the file with the name displayed at the top of the Editor screen. Example 2 uses another name and the name displayed at the top of the screen is ignored.

```
SAVE [newname]  
SA
```

Same as FILE except the edit session continues.

```
EXECUTE [newname]  
EX
```

Same as the FILE command above except the file is executed also.

Miscellaneous Commands

Some other helpful commands are described below. More information on how to use these commands is available through the Editor's help facility.

```
HELP [topicname]  
HE
```

The HELP command is equivalent to F1. If you enter the HELP command in the command area, you can add a topic. Often the topic is an Editor command.

Examples:

```
HELP          obtains general information about the Editor.
HELP MOVE     explains the use of the MOVE command.
HELP TOPICS   gives a list of all available topic names for the Editor help facility.
```

```
DUP [n]
```

DUP duplicates the current line *n* number of times. For example:

```
dup 5
```

duplicates the current line (at the pointer -->) 5 times. The size of your file increases by 5 lines.

```
NAME [filename]
NA
```

This command is used to change the file name associated with the edit session.

If 0 (zero) is used as a name, the file name becomes undefined. Then if a FILE command is issued, you are prompted to enter a file name.

```
PREFIX  ON|OFF|FLIP|CLEAR
```

Use this command to open up a 4-character modifiable prefix area similar to CMS XEDIT. You can enter special commands to do editing operations such as inserting and deleting lines, moving and copying lines, etc. For more information enter "HELP PREFIX" during an edit session.

```
PURGE [filename]
PUR
```

This command is used to permanently remove (delete) a file from your library (same as the MUSIC command PURGE).


```
UNDELETE  
UNDEL
```

This command restores the line deleted by the previous DELETE command, provided it was a simple delete of 1 line. The deleted line is inserted before the current line.

Editing an Existing File (Exercise 3b)

For this exercise, you will edit the file TRY.EX that you created in exercise 3a. Following each set of instructions, there is a diagram illustrating how your screen should appear. For each step the instructions that you perform are printed in bold. If you wish to start the exercise over at any time, press the F3 key for quit.

Step 1 Starting the Editor: Choose the "FUTIL" topic from the FSI Main Selection screen to go to the FILE UTILITIES screen.

From the FILE UTILITIES screen you have many selections for working with files. To start the Editor you have two choices: "Edit" and "EditNew". For this exercise you will need to choose "Edit" since your file already exists.

Step 2 Choose the "Edit" topic to go to the EDIT screen. Make sure the information in the "File" field is "try.ex" as in figure 3.7 below.

```
Help   End   Up    Down   Top    Bottom Main   Scan   Find   Topic  Quit
-----Edit----- Page 1/1
Command ==>
Date: 16Jun94 14:07:59                               Updated: 06Jun94 16:15
Fill in the field and press ENTER or RETURN.

Current directory => \

File =>try.ex_                                         <

F1=Help  F2=Ask F3=End F7=Up F8=Dn  F9=Find  F10=Top  F11=Bot F12=Ret PA1=Quit
```

Figure 3.7 - Edit Screen, Step 2 (Exercise 3b)

Step 3 Once you have filled in the "File" field on the EDIT screen, press the ENTER key to proceed to the Editor.

Figure 3.8 shows how your screen should look.

```

userid:TRY.EX                      L 80   W 1 72   Rec 1/8
  *Top of file
--> Using the Editor

The Editor is used to create and revise files.
The proper way to type in lines of text is to use the
TAB key to end each line.
Use the ENTER key when you have filled the screen.
After you have typed in your text, use the
"FILE" command to save your file and end the edit session.
*End of file

-----T--1-----2-----3-----4-----5-----6-----7--
Command:_
** File has lower case characters or is new - assuming TEXT LC      Reading
Default PFs: 1:Help    2:Split    3:Quit    4:Mark    5:Center  6:Del line
*EDIT*       7:Uppage   8:Downpage 9:Locate 10:Ins line 11:Input 12:Command

```

Figure 3.8 - Editor Screen, Step 3 (Exercise 3b)

When you first start the Editor, your line pointer (-->) is at line (Rec) 1 in your file and the cursor is in the command area. Because this is a short file, you are able to see the whole file on one screen.

Note: If your screen shows a prefix area in the left margin (====) type the command "PREFIX OFF" before continuing with the exercise.

Adding Multiple Lines

In this step, you are going to add more text to the end of the file. It is important to move the line pointer to the end of the file before going to input mode.

Step 4 **Type the BOTTOM command (B for short) in the command area as show in figure 3.9.**

```

userid:TRY.EX                      L 80   W 1 72   Rec 1/8
  *Top of file
--> Using the Editor

  The Editor is used to create and revise files.
  The proper way to type in lines of text is to use the
  TAB key to end each line.
  Use the ENTER key when you have filled the screen.
  After you have typed in your text, use the
  "FILE" command to save your file and end the edit session._
  *End of file

-----+T--1-----+-----2-----+-----3-----+-----4-----+-----5-----+-----6-----+-----7--
Command: b_

                                         Reading
Default PFs: 1:Help      2:Split      3:Quit      4:Mark      5:Center  6:Del line
  *EDIT*      7:Uppage    8:Downpage  9:Locate   10:Ins line 11:Input  12:Command

```

Figure 3.9 - Bottom Command, Step 4 (Exercise 3b)

Step 5 Press the ENTER key and you should see the line pointer move to the "***End of file**" line (figure 3.10).

```

userid:TRY.EX                      L 80   W 1 72   Rec 9/8
  *Top of file
  Using the Editor

  The Editor is used to create and revise files.
  The proper way to type in lines of text is to use the
  TAB key to end each line.
  Use the ENTER key when you have filled the screen.
  After you have typed in your text, use the
  "FILE" command to save your file and end the edit session.
--> *End of file

-----+T--1-----+-----2-----+-----3-----+-----4-----+-----5-----+-----6-----+-----7--
Command: _

                                         Reading
Default PFs: 1:Help      2:Split      3:Quit      4:Mark      5:Center  6:Del line
  *EDIT*      7:Uppage    8:Downpage  9:Locate   10:Ins line 11:Input  12:Command

```

Figure 3.10 - Bottom of the File, Step 5 (Exercise 3b)

When you want to type in more than one line, the best way is to go to input mode.

Step 6 Press F11 (Input) to go to input mode.

Your screen should look like figure 3.11 below.

```

userid:TRY.EX                                L 80   W 1 72   Rec 9/8
  The proper way to type in lines of text is to use the
  TAB key to end each line.
  Use the ENTER key when you have filled the screen.
  After you have typed in your text, use the
  "FILE" command to save your file and end the edit session.
  -

-----+T--1-----+---2-----+---3-----+---4-----+---5-----+---6-----+---7--
                                     * Input Mode *

Default PFs: 1:Help    2:Split    3:Quit    4:Mark    5:Center  6:Del line
*EDIT*      7:Uppage   8:Downpage 9:Locate 10:Ins line 11:Input 12:Command
Reading

```

Figure 3.11 - Input Mode of the Editor, Step 6 (Exercise 3b)

Notice in figure 3.11 that the Editor shows the words "* Input Mode *" near the bottom of the screen and that the command area is no longer there. Also your file has been moved up and 5 lines of the previous text is showing.

Typing New Lines

In this step you'll be adding a 4-line paragraph beginning with the text "Other programs...". Figure 3.12 below shows the text to be added to this file.

Step 7 **First, add a blank line by using the TAB key and then type the text as you see it, line for line.**

If you accidentally go to command mode because you press an action 92245 key by mistake, press F11 to resume input mode. When you are finished typing, your cursor should be right after the word "command."

```

userid:TRY.EX                      L 80   W 1 72   Rec 9/8
  The proper way to type in lines of text is to use the
  TAB key to end each line.
  Use the ENTER key when you have filled the screen.
  After you have typed in your text, use the
  "FILE" command to save your file and end the edit session.

  Other programs on MUSIC invoke the Editor.
  For example, the MAIL program will put you into the Editor
  for entering your message and then takes control again when
  you use the SEND or FILE command._

-----+T--1-----+-----2-----+-----3-----+-----4-----+-----5-----+-----6-----+-----7--
                                   * Input Mode *

Reading
Default PFs: 1:Help    2:Split    3:Quit    4:Mark    5:Center  6:Del line
*EDIT*      7:Uppage  8:Downpage 9:Locate 10:Ins line 11:Input 12:Command

```

Figure 3.12 - Adding Lines, Step 7 (Exercise 3b)

Step 8 Moving to the Previous Page: Press the F7 (Uppage) key to move to the previous page.

You will be at the top of the file for this short document. Figure 3.13 illustrates the screen display. Notice that you are no longer in input mode. As soon as you press an action key (any function key) the command is done and you leave input mode.

```

userid:TRY.EX                      L 80   W 1 72   Rec 1/13
  *Top of file
--> Using the Editor

  The Editor is used to create and revise files.
  The proper way to type in lines of text is to use the
  TAB key to end each line.
  Use the ENTER key when you have filled the screen.
  After you have typed in your text, use the
  "FILE" command to save your file and end the edit session.

  Other programs on MUSIC invoke the Editor.
  For example, the MAIL program will put you into the Editor
  for entering your message and then takes control again when
  you use the SEND or FILE command.
  *End of file

-----+T--1-----+-----2-----+-----3-----+-----4-----+-----5-----+-----6-----+-----7--
Command:

Reading
Default PFs: 1:Help    2:Split    3:Quit    4:Mark    5:Center  6:Del line
*EDIT*      7:Uppage  8:Downpage 9:Locate 10:Ins line 11:Input 12:Command

```

Figure 3.13 - Using the F7 Action Key, Step 8 (Exercise 3b)

Your cursor should be on the first line of your file on the letter U in "Using". When the cursor is on the text lines on the screen, it takes priority over the line pointer (-->). You can use local keys (insert, delete, tab, arrow keys) and the pointer remains where it is until you press an action key. The line pointer moves to the current line when an action key is pressed.

Deleting Lines

To delete lines, position the cursor on the line you wish to delete and press F6 (Del line).

Step 9 **While your cursor is on the first line, press F6 twice to delete two lines.**

Your screen should now look like figure 3.14 below.

```
userid:TRY.EX                      L 80   W 1 72   Rec 1/11
  *Top of file
--> The Editor is used to create and revise files.
    The proper way to type in lines of text is to use the
    TAB key to end each line.
    Use the ENTER key when you have filled the screen.
    After you have typed in your text, use the
    "FILE" command to save your file and end the edit session.

    Other programs on MUSIC invoke the Editor.
    For example, the MAIL program will put you into the Editor
    for entering your message and then takes control again when
    you use the SEND or FILE command.
  *End of file

-----T--1-----2-----3-----4-----5-----6-----7--
Command:
** Line deleted
Default PFs: 1:Help    2:Split    3:Quit    4:Mark    5:Center  6:Del line
*EDIT*      7:Uppage   8:Downpage 9:Locate 10:Ins line 11:Input 12:Command
Reading
```

Figure 3.14 - Deleting Lines, Step 9 (Exercise 3b)

Notice in figure 3.14 that the message "*** Line deleted" appears near the bottom of the screen each time you delete a line.

Deleting a Word

For deleting words you need the local editing key called DELETE (not F6 - Del Line). This key can usually be found on the right-hand side of the keyboard and has either the word "Delete" on it or the letter "a" with the delete symbol through it.

In the next step you'll remove the word "your" from the sentence that begins with "After you have..." (line 5).

Step 10 **Move the cursor with arrow keys until it is on top of the word "your" on line 5 on the screen. Press the DELETE key until the word "your" and a blank space are removed.**

Your screen should look like figure 3.15 below.

```

userid:TRY.EX                      L 80   W 1 72   Rec 1/11
*Top of file
--> The Editor is used to create and revise files.
    The proper way to type in lines of text is to use the
    TAB key to end each line.
    Use the ENTER key when you have filled the screen.
    After you have typed in text, use the
    "FILE" command to save your file and end the edit session.

    Other programs on MUSIC invoke the Editor.
    For example, the MAIL program will put you into the Editor
    for entering your message and then takes control again when
    you use the SEND or FILE command.
*End of file

-----T--1-----2-----3-----4-----5-----6-----7--
Command:
** Line deleted                                     Reading
Default PFs: 1:Help      2:Split      3:Quit      4:Mark      5:Center  6:Del line
*EDIT*       7:Uppage    8:Downpage  9:Locate   10:Ins line 11:Input  12:Command

```

Figure 3.15 - Deleting a Word, Step 10 (Exercise 3b)

Marking Lines

Before you can move, copy, or delete a group of lines, you need to identify these lines by marking them. When you mark lines, a vertical line will be placed in the left margin to identify the group of lines. You need to press the F4 key called MARK once at the start of the group and once at the end of the group.

Step 11 **Move the cursor so that it is somewhere on line 5. (This line starts with "After you have...".) Press F4 (mark). Now, move the cursor down one line and press F4 again.**

Both lines should be marked as shown in figure 3.16 below.


```

userid:TRY.EX                                L 80   W 1 72   Rec 6/11
  *Top of file
  The Editor is used to create and revise files.
  The proper way to type in lines of text is to use the
  TAB key to end each line.
  Use the ENTER key when you have filled the screen.
|  After you have typed in text,
|-> use the "FILE" command to save your file and end the session.

  Other programs on MUSIC invoke the Editor.
  For example, the MAIL program will put you into the Editor
  for entering your message and then takes control again when
  you use the SEND or FILE command.
  *End of file

-----T--1-----2-----3-----4-----5-----6-----7--
Command:
** Lines 5 thru 6 marked ( 2 lines)                                Reading
Default PFs: 1:Help      2:Split      3:Quit      4:Mark      5:Center  6:Del line
*EDIT*       7:Uppage     8:Downpage  9:Locate   10:Ins line 11:Input  12:Command

```

Figure 3.16 - Marking Lines, Step 11 (Exercise 3b)

Notice the message "*** Lines 5 thru 6 marked (2 lines)" in figure 3.16. Now you are ready to move, copy or delete this block of lines.

Moving Marked Lines

You are going to move the marked lines to the end of the file. You need to indicate where you're going to move the lines and then go to the command area to type in the "MOVE." command. When F12 is used, the line pointer automatically moves to the line the cursor was on, and the cursor goes to the command area. It is important to move this line pointer to tell the Editor where you want to move the marked group of lines.

Step 12 First, move the cursor with the DOWN ARROW to the last line where it reads "you use the...". Next, press F12 (Command) to bring the cursor to the command area. Type the "MOVE." command. Don't forget the dot (.) at the end of this command. Press the ENTER key.

Figure 3.17 shows the MOVE. command in the command area before the ENTER key is pressed. Figure 3.18 shows the results of the MOVE. command.

```

userid:TRY.EX                      L 80   W 1 72   Rec 11/11
*Top of file
The Editor is used to create and revise files.
The proper way to type in lines of text is to use the
TAB key to end each line.
Use the ENTER key when you have filled the screen.
| After you have typed in text, use the
| "FILE" command to save your file and end the edit session.

Other programs on MUSIC invoke the Editor.
For example, the MAIL program will put you into the Editor
for entering your message and then takes control again when
--> you use the SEND or FILE command.
*End of file

-----T--1-----2-----3-----4-----5-----6-----7--
Command: move._

Reading
Default PFs: 1:Help    2:Split    3:Quit    4:Mark    5:Center  6:Del line
*EDIT*      7:Up page  8:Down page  9:Locate 10:Ins line 11:Input 12:Command

```

Figure 3.17 - Display Before Pressing ENTER, Step 12 (Exercise 3b)

```

userid:TRY.EX                      L 80   W 1 72   Rec 11/11
*Top of file
The Editor is used to create and revise files.
The proper way to type in lines of text is to use the
TAB key to end each line.
Use the ENTER key when you have filled the screen.

Other programs on MUSIC invoke the Editor.
For example, the MAIL program will put you into the Editor
for entering your message and then takes control again when
you use the SEND or FILE command.
| After you have typed in text, use the
|-> the "FILE" command to save your file and end the edit session.
*End of file

-----T--1-----2-----3-----4-----5-----6-----7--
Command: _

Reading
Default PFs: 1:Help    2:Split    3:Quit    4:Mark    5:Center  6:Del line
*EDIT*      7:Up page  8:Down page  9:Locate 10:Ins line 11:Input 12:Command

```

Figure 3.18 - Display After Pressing ENTER, Step 12 (Exercise 3b)

The marked lines have been moved to the end of the file. These lines remain marked unless you use the F4 key to mark other lines or use the UNMARK command.

Deleting Marked Lines

For two lines it is probably more convenient to move the cursor to the appropriate lines and press F6 (Del line) twice. But for the purpose of this exercise, let's delete this group of lines by using the "DELETE." command. The cursor should already be in the command area, and the previous lines are still marked.

Step 13 To delete these lines, type the "DEL." command (don't forget the dot) as shown in figure 3.19. Press the ENTER key.

Figure 3.19 shows the screen before the DEL. command is "entered". Figure 3.20 shows the result of the DEL. command.

```
userid:TRY.EX                                L 80   W 1 72   Rec 11/11
  *Top of file
  The Editor is used to create and revise files.
  The proper way to type in lines of text is to use the
  TAB key to end each line.
  Use the ENTER key when you have filled the screen.

  Other programs on MUSIC invoke the Editor.
  For example, the MAIL program will put you into the Editor
  for entering your message and then takes control again when
  you use the SEND or FILE command.
| After you have typed in text, use the
|-> "FILE" command to save your file and end the edit session.
  *End of file

-----T--1-----2-----3-----4-----5-----6-----7--
Command: del._

Reading
Default PFs: 1:Help    2:Split    3:Quit    4:Mark    5:Center  6:Del line
*EDIT*      7:Uppage  8:Downpage  9:Locate 10:Ins line 11:Input 12:Command
```

Figure 3.19 - Display Before Pressing ENTER, Step 13 (Exercise 3b)

```

userid:TRY.EX                                L 80   W 1 72   Rec 10/9
*Top of file
The Editor is used to create and revise files.
The proper way to type in lines of text is to use the
TAB key to end each line.
Use the ENTER key when you have filled the screen.

Other programs on MUSIC invoke the Editor.
For example, the MAIL program will put you into the Editor
for entering your message and then takes control again when
you use the SEND or FILE command.
--> *End of file

-----T--1-----2-----3-----4-----5-----6-----7--
Command: _
** 2 Lines deleted                                Reading
Default PFs: 1:Help    2:Split    3:Quit    4:Mark    5:Center  6:Del line
*EDIT*       7:Uppage  8:Downpage 9:Locate 10:Ins line 11:Input 12:Command

```

Figure 3.20 - Display After Pressing ENTER, Step 13 (Exercise 3b)

Notice the message "*** 2 Lines deleted" on the screen in figure 3.20. The Editor kept track of the number of lines deleted.

Inserting Lines

As shown earlier, you can use F11 to go to input mode for typing in new lines. For one or two lines it is more convenient to use the F10 (Ins line) key. Let's try adding two lines to the beginning of this file.

Step 14 **Move the cursor before the first line in your file so that it is on top of the message "*Top of file".**

Your screen should look like figure 3.21 below.

```

userid:TRY.EX                      L 80   W 1 72   Rec 0/9
--> *Top of file
    The Editor is used to create and revise files.
    The proper way to type in lines of text is to use the
    TAB key to end each line.
    Use the ENTER key when you have filled the screen.

    Other programs on MUSIC invoke the Editor.
    For example, the MAIL program will put you into the Editor
    for entering your message and then takes control again when
    you use the SEND or FILE command.
    *End of file

    -----T--1-----2-----3-----4-----5-----6-----7--
Command:

Default PFs: 1:Help    2:Split    3:Quit    4:Mark    5:Center  6:Del line
*EDIT*      7:Uppage   8:Downpage 9:Locate 10:Ins line 11:Input 12:Command
Reading

```

Figure 3.21 - Moving Cursor to the top, Step 14 (Exercise 3b)

Step 15 Press the F10 key to insert a blank line. Type the words "Using the Editor" on this line and press F10 to open another line.

Your screen should look like figure 3.22 below.

```

userid:TRY.EX                      L 80   W 1 72   Rec 2/11
    *Top of file
    Using the Editor
--> _
    The Editor is used to create and revise files.
    The proper way to type in lines of text is to use the
    TAB key to end each line.
    Use the ENTER key when you have filled the screen.

    Other programs on MUSIC invoke the Editor.
    For example, the MAIL program will put you into the Editor
    for entering your message and then takes control again when
    you use the SEND or FILE command.
    *End of file

    -----T--1-----2-----3-----4-----5-----6-----7--
Command:

Default PFs: 1:Help    2:Split    3:Quit    4:Mark    5:Center  6:Del line
*EDIT*      7:Uppage   8:Downpage 9:Locate 10:Ins line 11:Input 12:Command
Reading

```

Figure 3.22 - Inserting Lines, Step 15 (Exercise 3b)

Inserting a Word

Let's try inserting a word in the middle of a line. You need the local editing key called INSERT (not F10 - Ins line). This key is usually located on the right hand side of the keyboard near the DELETE key. It may appear as the letter "a" with the insert symbol on top of it. When this key is pressed you should see the word "Insert" or the insert symbol (^) displayed at the bottom of the screen.

Step 16 **Move the cursor until it is on line 3 and on top of the letter "E" in "Editor". Press the local editing INSERT key (not F10). Now, type in the word "MUSIC" and a blank space.**

The workstation is now in insert mode and you should see the text on the line moving as you insert the new word. Your screen should look like figure 3.23.

Note: You remain in insert mode until an action key is pressed or you press either the RESET or INSERT key to turn it off (depending on your workstation).

```
userid:TRY.EX                      L 80   W 1 72   Rec 2/11
  *Top of file
  Using the Editor
-->
  The MUSIC Editor is used to create and revise files.
  The proper way to type in lines of text is to use the
  TAB key to end each line.
  Use the ENTER key when you have filled the screen.

  Other programs on MUSIC invoke the Editor.
  For example, the MAIL program will put you into the Editor
  for entering your message and then takes control again when
  you use the SEND or FILE command.
  *End of file

-----T--1-----2-----3-----4-----5-----6-----7--
Command:
Default PFs: 1:Help    2:Split    3:Quit    4:Mark    5:Center  6:Del line
*EDIT*      7:Up page  8:Down page  9:Locate 10:Ins line 11:Input 12:Command
Reading
Insert                                     ^
```

Figure 3.23 - Inserting Words, Step 16 (Exercise 3b)

Ending the Editor

There are a few ways to end your edit session. Most of the time you use the FILE command to save all of the changes. Use F3 (Quit) when you don't want to save any changes.

For the last step you have a choice of either 17A or 17B. Choose A if you wish to try exercise 3b over again. Choose B if you are ready to go on to the next chapter.

Step 17A **Press F3 (Quit) to end the session and answer "YES" when the following message appears:**

```
File has unsaved changes.  Terminate edit?"
```

Your screen should look like figure 3.24 below.

```
File has unsaved changes.  Terminate edit?  
Y  
  
-----T-----T  
Press ENTER to resume FSI                               More...
```

Figure 3.24 - Ending the Editor, Step 17A (Exercise 3b)

Step 17B Press F12 to go to the command area and type the "FILE" command.

Your screen should look like figure 3.25 below.

```
userid:TRY.EX  
Replaced  
  
-----T-----T  
Press ENTER to resume FSI                               More...
```

Figure 3.25 - Ending the Editor, Step 17B (Exercise 3b)

Important Keys

To use the Editor efficiently, it is important to understand the keyboard on your workstation. This guide assumes you are using a 3270-type terminal with the following keys:

Local Keys

Cursor movement keys: UP, DOWN, RIGHT, LEFT, and TAB
INSERT and DELETE keys
BACKSPACE key

Function

- moving the cursor
- inserting & deleting characters
- making typing corrections

Action Keys

12 program function (F) keys
ENTER key

Function

- represent Editor Commands
- recording a screen of data and transmitting typed Editor Commands

Each of the keys above are important for editing files. Make sure, if your workstation is not a 3270-type terminal, that you know what keys on your keyboard perform the same functions as the keys mentioned above.

See *Chapter 1 - Introduction* for information about other important keys at your workstation.

Function Keys (F1 - F12) for the Editor

Function keys have been defined to perform certain EDITOR commands, eliminating the need to type them. They provide a fast and easy way to edit files. Function keys can be used both in command and input modes of the Editor. The LOCK key must not be locked while using function keys.

If you want to, you can change the default definition of function keys. For information refer to the *MUSIC/SP User's Reference Guide*, or type "HELP DEFINE" in the Editor's command area.

Editor Function Key Definitions

<p>F1 HELP F13</p> <p>provides help text on how to use the EDITOR</p>	<p>F2 SPLIT F14</p> <p>splits line into two lines at cursor location</p>	<p>F3 QUIT F15</p> <p>ends edit session and returns to FSI or *Go without saving changes</p>
<p>F4 MARK F16</p> <p>marks a group of consecutive lines - used with commands copy. delete. move., etc.</p>	<p>F5 CENTER F17</p> <p>centers the current line in the middle of the screen</p>	<p>F6 DEL LINE F18</p> <p>deletes the line the cursor is on. If the cursor is in the command area, deletes the line where the line pointer (-->) points</p>
<p>F7 UPPAGE F19</p> <p>shifts window upward one full screen, (usually 18 lines)</p>	<p>F8 DOWNPAGE F20</p> <p>shifts window down by one full screen, (usually 18 lines)</p>	<p>F9 LOCATE F21</p> <p>locates the next occurrence of the character string you specified on the previous FIND or LOCATE command</p>
<p>F10 INS LINE F22</p> <p>opens up 1 blank line after line with cursor. If cursor is in the command area, opens line after line pointer</p>	<p>F11 INPUT F23</p> <p>switches back and forth from command mode to input mode</p>	<p>F12 COMMAND F24</p> <p>puts cursor into command area. Switches to command mode if input mode is in effect</p>

Editor Commands

To use Editor commands, press F12 to go to the command area. Type in the command and press ENTER.

<u>Moving in the File</u>	<u>Changing the File</u>	<u>Working with Marked Groups</u>	
FIND LOCATE TOP BOTTOM	CHANGE MERGE	MARK MOVE. DELETE. STORE	UNMARK COPY. CHANGE.
	<u>Ending the Edit Session</u>	<u>Miscellaneous</u>	
	FILE SAVE EXECUTE QUIT (F3)	HELP DUP NAME PREFIX	PURGE

Chapter 4. Programming

Chapter 4. Programming

Overview of Programming

This chapter introduces you to the compilers and processors menu of FSI. Through this facility, you can create and run programs. If you wish to know about running programs without FSI, refer to the *MUSIC/SP User's Reference Guide*.

This chapter explains:

- Using FSI's interface for compilers and processors
- Creating a source file
- Executing a program
- Viewing the output of a program

Introduction to Programming

FSI provides menu driven interfaces to high level language compilers and processors. You do not need to know complex job control language or cryptic commands to use the compilers. Default compiler options are pre-set. The programs are compiled and linked in a single step, eliminating the need to handle object programs and load modules. Program compilation and output can be stored in a file and optionally printed when needed.

The language compilers and processors that are available on your system are listed on the "Compilers/Processors Menu". To get to this menu, choose the "Programming" topic from the FSI main menu, then select the "CompProc" topic. Figure 4.1 is an example of the Compiler/Processors Menu. To make a selection, type a selection number and press the ENTER key. The system interface for the selected item will then start. For more information on a particular language or processor, press F1 (help) once the specific compiler or processor interface is displayed.

```

----- Compilers/Processors Menu -----
Selection ==> __ (Type a number from the following list and press ENTER)

1 VS Assembler
2 VS Fortran Compiler
3 VS Fortran Interactive Debug
4 PASCAL/VS
5 COBOL II Compiler
6 COBOL II Test Environment
7 PL/I Optimizer
8 PL/I Interactive Test
9 RPG II
10 RPG II Autoreport
11 IBM C/370 Compiler

-----
F1:Help   F3:Exit

```

Figure 4.1 - Compilers/Processors Menu

Using FSI Language Interfaces

Some languages have their own user interface, however, most use the one provided by FSI. This interface allows you to edit a program, compile and execute it, review, and print the results.

For example, if selection 2 (VS Fortran Compiler) is chosen from the Compilers/Processors menu (figure 4.1), the following screen appears:

```

-----VS Fortran Compiler-----
Selection ==> __

Fill in the selection code and program name, then press ENTER.

Selections:  E - Edit Program      C - Compile and Execute      V - View Output
              P - Print Output      J - Edit Job Control File      I - Language Info

Program Name ==> _____

Printer Name ==> SYSTEM      (Used with P option)
Output Mode ==> V            (V-View output at end of job)
                          (I-View output interactively)

-----
F1:Help   F3:Exit

```

Figure 4.2 - FSI Interface for VS Fortran

Your cursor is automatically positioned in the selection field at the top of the screen. To use this interface,

type the selection code indicating the function you want, then type the program name in the space available and press ENTER.

Selection Codes:

- E - This option is used to edit the program source file. This file contains your program. If you are writing a new program and this file does not already exist, selecting E will allow you to create one.
- C - The program is compiled, and if no errors are detected, it is executed. An output file is automatically created that can be viewed or printed later. In addition an object file may also be created.
- V - This option is used to view the current output file.
- P - This option prints the current output file on a specified printer.
- J - This option allows you to edit a special file containing the MUSIC control statements to compile and execute your program. You can:
 - Change the region size
 - Add /FILE statements if required
 - Change the compiler options (/OPT statement)
 - Change the run-time options (/PARM statement)
 - Change the Loader options (/JOB statement)
 - Add SYSIN data after the /DATA statement
- I - This option gives information specific to the language you are using. It lists details on compiler options, run-time options, /FILE statement requirements, and information about using that particular language on MUSIC.

Program File Names

Each language interface creates a number of files on your behalf based on the program name. For example, if PROGRAM1 is the name used in the "Program Name" field, the following files are created:

- | | |
|---------------|--|
| PROGRAM1.S | is the file containing the actual program source statements and is the one you access when you specify the EDIT option. |
| PROGRAM1.OBJ | is the object program created by the compiler. This may not always be created, depending on the language you are using. |
| PROGRAM1.LIST | contains the output of the latest run. This file can be viewed at any time by using the V option and can be printed using the P option. It is also accessible while editing the source file by pressing F2. |
| PROGRAM1.xxx | contains the MUSIC control statements required to compile and execute your program. The J option is used to edit this file for changing default options that are specified on the control statements. More information can be obtained about language specific control statements by selection option I. The value of "xxx" depends on the language you are using. For example, if VS/FORTRAN is being used the name would be: |

PROGRAM1.VSF

Note: There is no file created that is actually called PROGRAM1 - all files have a suffix of ".S", ".OBJ",

etc. The files created by the interface remain in your library until you delete them.

Printer Name

A default route destination is displayed in this field. Check with your installation about available printers.

Output Mode

If "V" is specified, the program output is saved in a file that you view after the program has completed.

If your program is interactive, that is, it writes messages to the screen and reads input from the keyboard, it is important to see the program output as it is being produced. In this case, use the "I" option.

Creating a Fortran Program (Exercise 4)

In the following exercise, you will create a small Fortran program to compute square roots. You can press F3 at any time to quit, if you wish to start over.

Creating the Source File

- Step 1** **From the FSI main menu select the "Programming" topic to go to the PROGRAMMING LANGUAGES menu. Then select the "CompProc" topic to go to the COMPILERS/PROCESSORS menu.**
- Step 2** **Choose the "VS Fortran Compiler" option on the Compilers/Processors menu.** (In the sample screen, figure 4.1, this is illustrated as selection 2 - it may be different at your installation.)

The following screen should appear:

```

-----VS Fortran Compiler-----
Selection ==> __

Fill in the selection code and program name, then press ENTER.

Selections:  E - Edit Program      C - Compile and Execute      V - View Output
              P - Print Output     J - Edit Job Control File   I - Language Info

Program Name ==> _____

Printer Name ==> SYSTEM      (Used with P option)
Output Mode ==> V           (V-View output at end of job)
                          (I-View output interactively)

-----
F1:Help    F3:Exit

```

Figure 4.3 - VS Fortran Compiler Screen

Step 3 **Fill in the screen as in figure 4.4 below. Type "e" in the selection area and "square" in the Program Name field. Press ENTER.**

```

-----VS Fortran Compiler-----
Selection ==> e

Fill in the selection code and program name, then press ENTER.

Selections:  E - Edit Program      C - Compile and Execute      V - View Output
              P - Print Output     J - Edit Job Control File   I - Language Info

Program Name ==> square_____

Printer Name ==> SYSTEM      (Used with P option)
Output Mode ==> V           (V-View output at end of job)
                          (I-View output interactively)

-----
F1:Help    F3:Exit

```

Figure 4.4 - Filling in the VS Fortran Compiler Screen

After completing step 2, the following message should appear:

File does not exist, Press ENTER to create a new file.

Step 4 **Press ENTER to go to the Editor for typing your program.**

Note: Step 3 and 4 request the Editor to create a new file. If you already have a file with the name SQUARE.S then you will not get the message above. Instead, the Editor will display that file. If this is the case, press F3 to quit editing this file. You will return to the VS FORTRAN COMPILER screen. Type another name over "SQUARE" and press ENTER to continue.

Once you have completed step 3, the following screen appears:

```
userid:SQUARE.S                                L 80   W 1 72   Rec 1/0
—

-----T--1-----2-----3-----4-----5-----6-----7--
                                * Input Mode *
**File has lower case characters or is new - assuming TEXT LC           Reading
Default PFs: 1:Help    2:Split    3:Quit    4:Mark    5:Center  6:Del line
*EDIT*       7:Uppage   8:Downpage 9:Locate 10:Ins line 11:Input 12:Command
```

Figure 4.5 - Input Mode of the Editor

Chapter 3 - Using the Editor explains how to type in new files. Refer to this chapter if you encounter any difficulties with step 4.

Step 5 **Type in the program as illustrated in figure 4.6 below.**

```
userid:SQUARE.S                                L 80   W 1 72   Rec 1/0
DO 10 I=1,3
A=I*10.0
B=SQRT(A)
WRITE(6,2)A,B
2   FORMAT(' THE ROOT OF',F7.2,' IS',F7.2)
10  CONTINUE
STOP
-->  END

-----T--1-----2-----3-----4-----5-----6-----7--
                                * Input Mode *
                                                Reading
Default PFs: 1:Help    2:Split    3:Quit    4:Mark    5:Center  6:Del line
*EDIT*       7:Uppage   8:Downpage 9:Locate 10:Ins line 11:Input 12:Command
```

Figure 4.6 - Creating a Program File

Step 6 **After typing the text in step 4, press F12 (command) and type "file" in the command area, press ENTER.**

You will return to the VS Fortran Compiler interface screen.

Executing a Program

When you are at the first screen of a compiler interface, you have several options to choose from. The C (Compile) option is necessary to compile and execute a source file. Step 6 above returned you to the first screen of the VS Fortran Compiler interface. The program name of SQUARE still remains on the screen.

Step 7 Enter "C" in the selection area to compile and execute this program. Press ENTER.

Your screen should look like figure 4.7:

```
-----VS Fortran Compiler-----
Selection ==> c_
Execution in progress...
Fill in the selection code and program name, then press ENTER.

Selections:  E - Edit Program      C - Compile and Execute      V - View Output
              P - Print Output      J - Edit Job Control File    I - Language Info

Program Name ==> SQUARE

Printer Name ==> SYSTEM      (Used with P option)
Output Mode ==> V           (V-View output at end of job)
                          (I-View output interactively)

-----
F1:Help      F3:Exit
```

Figure 4.7 - Using the "C" Selection Code

Notice the message "Execution in progress" at the top of the screen in figure 4.7. When execution is complete, and if there are no errors in your program, the VIEW program displays your output file (SQUARE.LIST).

Your screen should look like figure 4.8 below:

Note: If there are errors in your program, you will see these error messages and you will be able to return to the VS Fortran Compiler interface screen by pressing F3 (exit). From this screen you can choose to edit the program and try steps 6 and 7 again.

```

userid:SQUARE.LIST                      L 120      C 1-80          Rec 1/27
COMMAND ==>                             SCROLL ==> PAGE
*** TOP OF FILE *** -----VC/TEXTLC/IGNORE
1LEVEL 1.4.1 (MAY 1985)                  VS FORTRAN          DATE: NOV 27, 1990    TIME
0REQUESTED OPTIONS (EXECUTE): FLAG(E),SOURCE
VS FORTRAN COMPILER ENTERED. 08:58:02
0OPTIONS IN EFFECT:  NOLIST NOMAP NOXREF NOGOSTMT NODECK  SOURCE  TERM  OBJEC
                      NOSYM NORENT  SDUMP AUTODBL(NONE)  NOSXM  IL
                      OPT(0) LANGLVL(77) NOFIPS  FLAG(E)  NAME(MAIN  )  LINECO
0      *....*...1.....2.....3.....4.....5.....6....
0ISN      1      DO 10 I=1,3
ISN      2      A=I*10.0
ISN      3      B=SQRT(A)
ISN      4      WRITE(6,2)A,B
ISN      5      2      FORMAT(' THE ROOT OF',F7.2,' IS',F7.2)
ISN      6      10     CONTINUE
ISN      7      STOP
ISN      8      END

**MAIN** END OF COMPILATION 1 *****
0*STATISTICS*  SOURCE STATEMENTS = 8, PROGRAM SIZE = 772 BYTES, PROGRAM NAME =
0*STATISTICS*  NO DIAGNOSTICS GENERATED.
-----
F1:Help  3:End  4:Mark  5:Cent  7:Up  8:Down  9:Loc  10:Left  11:Right  12:Ret

```

Figure 4.8 - Viewing the Program Output File

Step 8 Press F8 to see the next screen.

Your screen should look like figure 4.9 below.

```

userid:SQUARE.LIST                      L 120      C 1-80          Rec 20/27
COMMAND ==>                             SCROLL ==> PAGE
-----VC/TEXTLC/IGNORE
0**MAIN** END OF COMPILATION 1 *****
VS FORTRAN COMPILER EXITED. 08:58:04

THE ROOT OF  10.00 IS   3.16
THE ROOT OF  20.00 IS   4.47
THE ROOT OF  30.00 IS   5.48
*** BOTTOM OF FILE ***

-----
F1:Help  3:End  4:Mark  5:Cent  7:Up  8:Down  9:Loc  10:Left  11:Right  12:Ret

```

Figure 4.9 - Viewing the End of the Output File

Step 9 Press F3 to return to the VS Fortran Compiler screen.

Editing the Job Control File

In the next step, you will look at the job control file for the SQUARE program.

Step 10 **Type "J" in the selection area of the VS Fortran Compiler interface screen.**

The following screen appears:

```
userid:SQUARE.VSF                      L 80   W 1 72   Rec 1/5
*Top of file
--> /SYS REGION=1024
    /LOAD VSFORT
    /JOB NOPRINT,NOEDIT
    /OPT FLAG(E),SOURCE
    /INC SQUARE.S
*End of file

-----T--1-----2-----3-----4-----5-----6-----7--
Command:

Reading
```

Figure 4.10 - Editing the file SQUARE.VSF

Step 10 causes the Editor program to display the job control file for the SQUARE program. At this time, you could change some of the statements and execute the program again. For now, you will leave the file as it is.

Ending the Compiler/Processor Interface

Step 11 **To return to the FSI main menu, press F3 three times to step backward through the screens you have invoked.**

Summary

The following describes the typical usage of this interface and indicates what happens at each stage.

1. Select the E option, type in a new program name and press ENTER. The interface notices that the program does not already exist and asks you if you want to create a new one. If you respond positively, a new control file is created and you are given a new source file to edit. Once you have finished entering your new program you terminate the edit using the FILE command. You are now returned to the selection screen. You can use the J option to edit the control file for the program to change the default file definitions or compiler options.
2. Select the C option. This compiles the program and executes it if there are no errors. Usually there are some errors the first time. The program output is automatically displayed and you are returned to the selection screen when you have finished looking at it.
3. If there are errors to correct select option E and make the appropriate changes to the program source statements. You can switch back and forth between editing the program and looking at the output file by pressing F2. As in (1), finish the edit using the FILE command. This returns you to the selection screen where you can re-compile using the C option. This process is repeated until you are satisfied that the program works properly.
4. The P option can now be used to print the finished program at the printer of your choice.

Chapter 5. File Management

Chapter 5. File Management

Overview

This chapter describes file management for MUSIC files on the mainframe computer. This chapter explains:

- How Files are Stored on MUSIC
- File Attributes
- Listing your files
- Copying and Renaming Files
- Deleting Files

How are Files Stored?

The group of files that you own is referred to as your *library*. Each file in your library has a unique name. In addition to your own library, you can access files in the public library and shared files in other user's libraries.

If you wish, you can archive files onto magnetic tape for backup or transport. Also, you can download or upload files to and from a personal computer. Refer to the *MUSIC/SP User's Reference Guide* for more information, or type `/help archive` for archival information and `/help pc` for information about personal computers.

Directories: Your files can be stored in your library under one directory (flat file system) or several directories (hierarchical tree-structured file system). The commands to use a tree-structured system are the same as DOS commands (MD, CD, RD, DIR). This guide deals with a flat file system. For information about directories on MUSIC, type `/help dir`.

File Attributes

By default, your files are saved with the PRIV (private) attribute. This means that only you can access your files when signed on to MUSIC with your userid. No one else has access to the files in your library unless you create files with the SHR (share) attribute. (Your institution may restrict the use of the SHR attribute for some userids.)

To give a file the SHR attribute use the FILE command in the Editor as follows:

```
FILE filename SHR
```

When files have the share attribute, other MUSIC users can access them. The other user would need to know your ownership id and the name of the file. (The ownership id is your userid excluding a subcode if any.)

For example, if your ownership id was ABCD and the file was called XYZ the other user would supply the name "ABCD:XYZ" to use it. They would not be able to change your file, but they would be able to view or copy it.

Listing Your Files

In this section you will learn about listing the files in your library by using the FLIB program ("FLIB *" or "FLIB filespec" topics on the main menu).

Note: There are other programs on MUSIC that can help you manage your files. The LIBRARY command displays different information from FLIB and it can save the list in a file. The FINDTEXT command is useful in finding a file that has certain text in it. These two commands are described in *Chapter 8 - MUSIC Commands*. They are also available from the "FUTIL" topic on the FSI main menu along with other common file utilities.

FLIB Topics of FSI

There are two topics on the FSI main menu that invoke the FLIB program for listing your file names and attributes. The "FLIB *" topic will display all the files in your library.

For the "FLIB Filespec" topic of FSI you need to specify a file specification (see "Filespec" below). In this field on the screen you can specify a group of files (pattern) to be displayed.

Filespec It indicates the file names to be included in the group. Using an "*" as a wild card character gives greater flexibility in specifying a group. Examples:

- | | |
|-------|--|
| * | - All files in your library (same as "FLIB *" topic) |
| ABC* | - All files whose names start with ABC |
| AB*C | - All files whose names start with AB and end with C |
| *ABC* | - All files with ABC somewhere in the name |

Tips on Managing File Groups

The rules for naming files can be found at the beginning of *Chapter 3 - Using the Editor* under the heading "File Names". For managing a group of files you may want to select names that can distinguish one group from another. For example, when storing chapters of a book, you can choose to begin each file name with "NOVEL". Chapter 1 could be called "NOVEL.1", chapter 2 - "NOVEL.2", etc. Specify "novel*" in the "Filespec" field on the FSI main menu.

Note: Another option for managing groups of files is to use MUSIC's tree-structured file system by creating sub-directories. Type "/help md" for more information.

Processing Your Files

After choosing either the "FLIB *" or the "FLIB Filespec" topic control is passed to the FLIB program and the LIBRARY MANAGEMENT screen appears.

Library Management Screen

The LIBRARY MANAGEMENT screen (figure 5.1) lists the files you selected and allows processing of individual files. Figure 5.1 shows a sample listing of all the files for a particular userid.

```
----- LIBRARY MANAGEMENT SCREEN ----- 4.1
Command ==>

Current Directory ==>
Files: 10
Cmd/Opt  Filename
-----
_____ @ELOG.000
_____ AR.C1
_____ AR.C2
_____ ASSIGNMENT1
_____ COMMITTEE
_____ MEMO.901105
_____ MEMO.901121
_____ TRY.EX
_____ TRY.EX2
_____ XRAY

----- 10:55:44
Options: E:Edit  B:Browse  X:Execute  C:Copy  R:Rename  D>Delete  11:File Info
PF-Keys  1:Help  3:Exit   4:Col Flip  7:Up    8:Down   9:Locate  10:Refresh
```

Figure 5.1 - Listing of a group of files

Note: Any files that begin with the "@" symbol are generated by programs that you use on MUSIC. In figure 5.1 the file "@ELOG.000" is a file that the Editor program created to keep a log of an edit session.

Displaying File Information

Press F11 on the LIBRARY MANAGEMENT screen to display file information. FSI will rescan the library and add the additional information beside each file name, as in figure 5.2 below.

----- LIBRARY MANAGEMENT SCREEN ----- 4.1									
Command ==>									
Files: 10 Bytes: 54 K									
Current Directory ==>									
Cmd/Opt	Filename	RECL	FM	---	SPACE---	USED	CREATED	ACCESS	

	@ELOG.000	80	FC	6K	0%	1 0000000	27NOV90	RW	
	AR.C1	80	FC	4K	14%	1 27NOV90	27NOV90	RW	
	AR.C2	80	FC	4K	14%	2 27NOV90	27NOV90	RW	
	ASSIGNMENT1	120	VC	20K	100%	1 0000000	27NOV90	RW	
	COMMITTEE	80	FC	2K	33%	1 27NOV90	27NOV90	RW	
	MEMO.901105	80	FC	4K	14%	1 27NOV90	05NOV90	RW	
	MEMO.901121	80	FC	8K	33%	1 23NOV90	21NOV90	RW	
	TRY.EX	80	FC	2K	33%	1 0000000	23NOV90	RW	
	TRY.EX2	80	FC	2K	33%	1 0000000	23NOV90	RW	
	XRAY	80	FC	2K	100%	1 0000000	28NOV90	RW	
----- 13:43:02									
Options: E:Edit B:Browse X:Execute C:Copy R:Rename D:Delete 11:File Info									
PF-Keys 1:Help 3:Exit 4:Col Flip 7:Up 8:Down 9:Locate 10:Refresh									

Figure 5.2 - Listing File Information

Command or Option Area (Cmd/Opt)

The LIBRARY MANAGEMENT screen provides a list of files with a special command or option area (labeled Cmd/Opt) to the left of each file name. The option codes, that you type beside the file names, are listed at the bottom of the screen (for example: E for editing files). You can also enter MUSIC commands in this area (see "Issuing MUSIC Commands" later for information about typing commands in this field).

Option Codes

The following describes the option codes for the Cmd/Opt field on the LIBRARY MANAGEMENT screen.

- E:Edit invokes the Editor program for editing files.
- B:Browse invokes the Editor program for browsing files (no editing).
- X:Execute executes the file.
- D:Delete Enter D beside the file(s) you wish to delete. Remember to use caution when deleting files.
- C:Copy Enter C beside the file(s) for copying. Control is passed to the COPY/RENAME screen which prompts for further information.
- R:Rename Enter R beside the file(s) to rename. Control is passed to COPY/RENAME screen which prompts for further information.

Function Keys

The following describes the function keys that are listed on the bottom of the LIBRARY MANAGEMENT screen (figure 5.2).

- | | |
|-----------------|--|
| F3 - Exit | exits the LIBRARY MANAGEMENT screen and returns to the FILE MANAGEMENT SELECTION screen. |
| F4 - Col Flip | flips between 1 and 2 column display of file names. |
| F7 - Up | moves up one screen. |
| F8 - Down | moves down one screen. |
| F9 - Locate | locates the next occurrence of the string specified in a previous LOCATE or FIND command. |
| F10 - Refresh | re-scans the library and refreshes the list. Use Refresh to bring the list of names up to date after deleting, renaming, or copying files. |
| F11 - File Info | displays information beside each file, including space, creation date, access date, etc. |

FSI Commands

The command area (Command ==>) at the top of the LIBRARY MANAGEMENT screen can be used to issue FSI commands and MUSIC commands. The following are FSI commands:

- | | |
|----------------------|---|
| DISPLAY <i>n</i> | goes to sequence number <i>n</i> in the list of file names. |
| FIND <i>string</i> | locates the file name that begins with <i>string</i> . |
| LAST | goes to the last screen of file names. |
| LIB <i>filespec</i> | re-scans the library for another group of files. <i>filespec</i> indicates which files are to be included in the group. The "*" is used as a wild card character in specifying the file name for the group. |
| LOCATE <i>string</i> | locates the file name that contains the <i>string</i> . |
| TOP | goes to the first screen of file names. |

Issuing MUSIC Commands

MUSIC commands can be entered in the Cmd/Opt field. (Chapter 8 describes MUSIC commands.) Type the command to the left of the file name(s) and press ENTER. For example, typing PRINT beside a file called FILE1 will result in the following command being executed:

```
PRINT FILE1
```

Note: Novices may prefer to print files by using the print function on the FSI main menu. Until you are familiar with all the parameters of MUSIC commands this method would be easier. Printing can also be done through the "Compiler/Processor" selection of the FSI main menu (described in *Chapter 4 - Programming*).

Examples for the Cmd/Opt Field

The following shows different combinations of MUSIC commands and library management options. These commands and options are typed in the Cmd/Opt field of the LIBRARY MANAGEMENT screen.

Cmd/Opt	Filename	
_____	FILE1	
view_____	FILE2	view FILE2 using the VIEW program
d_____	FILE3	delete FILE3
c_____	FILE4	copy FILE4

Changing the File Specification

There are two ways to change the specification for a group of files.

1. You can go to the FILE MANAGEMENT SELECTION screen (4.0) and fill in the filespec field.
2. You can use the LIB command of FSI on the LIBRARY MANAGEMENT screen. For example, to specify a group of files that begin with the word "TRY", use:

```
lib try*
```

Browsing Files

On the LIBRARY MANAGEMENT screen, there is a "B" option listed at the bottom of the screen. If you want to browse a file called TRY.EX, type "B" beside the file name and press ENTER.

```
b_____ TRY.EX
```

Figure 5.3 shows a sample screen display for browsing a file called TRY.EX.

```

File -- TRY.EX                      1      Lrecl 80      Window 1 72      8 Recs
--> *Top of file
    Using the Editor

    The Editor is used to create and revise files.
    There are several ways to start and end your edit session.
    One way to start your session is to choose item 1 (Edit) on
    the FSI main menu.
    After you have typed in your text,
    use the "FILE" command to save your file and end the session.
    *End of file

-----T--1-----2-----3-----4-----5-----6-----7--
Command:  _

Default PFs: 1:Help      2:Print      3:Quit      4:Top      5:Center      6:Bottom      Reading
*BROWSE*      7:Uppage    8:Downpage  9:Locate    10:Left     11:Right     12:Command

```

Figure 5.3 - Browsing a File

The "B" option of the LIBRARY MANAGEMENT screen is equivalent to the BROWSE command of MUSIC. This command invokes a subset of the Editor program which does not allow editing, only browsing. When you are finished browsing the file, press F3 to return to the LIBRARY MANAGEMENT screen.

Note: Another way to look at a file is to use the VIEW command of MUSIC. For example:

```
view_____ TRY.EX
```

See *Chapter 8 - MUSIC Commands* for more information about VIEW.

Copying and Renaming Files

When the LIBRARY MANAGEMENT screen displays the file(s) you have requested, you can select an option code to either copy (C) or rename (R) your files.

For example, to copy a file called TRY.EX, type "C" in the Cmd/Opt field, like this:

```
c_____ TRY.EX
```

Use "R" if you want to rename the file. In either case the COPY/RENAME screen (4.2) appears as shown in figure 5.4.

```
----- COPY/RENAME SCREEN ----- 4.2
Command ==>
Change the names or directory and press ENTER.
From Dir ==>
  To Dir ==>

Opt      Old name      New name
---      -
C        TRY.EX        TRY.EX

----- 13:39:40
Option : R:Rename  C:copy
PF Keys: 1:Help   3:Exit
```

Figure 5.4 - Copy/Rename Screen

Notice that both names are the same in the figure above. This is because you may want to alter the new name without having to retype all of it. To copy or rename a file, just type a new name over the name in the "New name" field.

You will receive the message of "*Copied" or "*Renamed" beside the file name (depending on whether you used the "C" or "R" option code). Figure 5.5 shows the results of copying the file TRY.EX to another file called TRY.OLD.

```
----- COPY/RENAME SCREEN ----- 4.2
Command ==>
Change the names or directory and press ENTER.
From Dir ==>
  To Dir ==>

Opt      Old name      New name
---      -
_        TRY.EX        TRY.OLD        *Copied

----- 13:39:40
Option : R:Rename  C:copy
PF Keys: 1:Help   3: Exit
```

Figure 5.5 - Copying a File

Press F3 to return to the LIBRARY MANAGEMENT screen.

Deleting Files

An important part of file management is to get rid of unwanted or obsolete files. You can list your whole library or a group of files on the LIBRARY MANAGEMENT screen and selectively delete old files. Be careful not to place the "D" option beside good files.

For example, if you want to delete a file called TRY.OLD, type "D" beside the file name and press ENTER.

```
d_____ TRY.OLD
```

When a file is deleted, your screen should look like figure 5.6 below.

```

----- LIBRARY MANAGEMENT SCREEN ----- 4.1
Command ==>

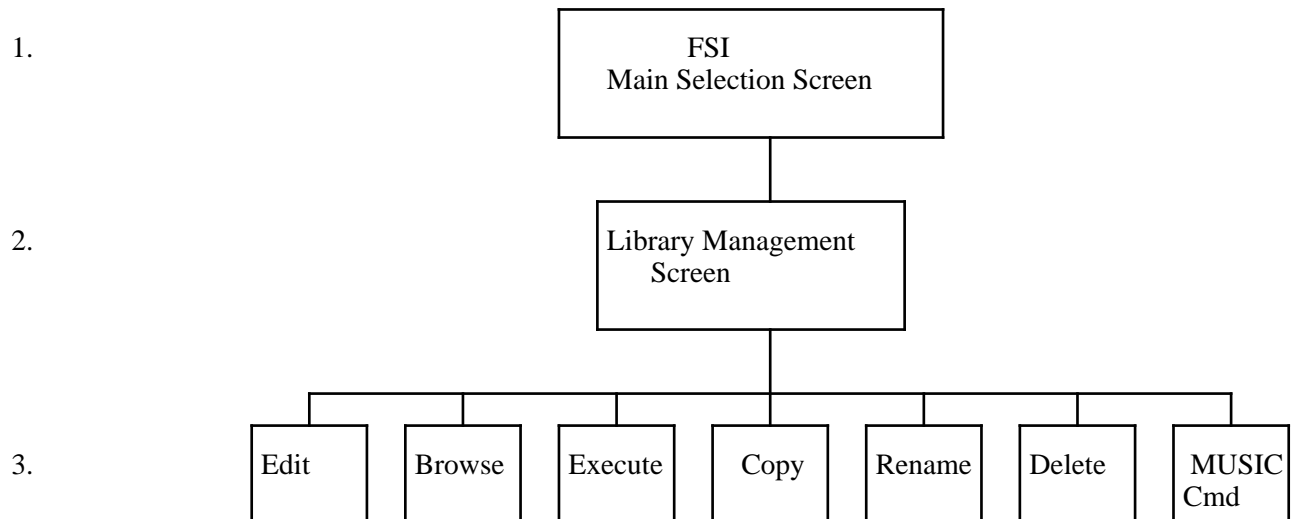
Files: 2      Bytes: 4 K
Cmd/Opt  Filename      RECL FM  ---SPACE---  USED      CREATED ACCESS
-----
TRY.EX      80 FC      2K 33%  1 09JUL90 05JUL90  RW
TRY.OLD      *deleted*

----- 13:45:13
Options: E:Edit  B:Browse  X:Execute  C:Copy  R:Rename  D>Delete  11:File Info
PF-Keys  1:Help   3:Exit   4:Col Flip  7:Up    8:Down   9:Locate 10:Refresh

```

Figure 5.6 - Deleting a File

Notice in figure 5.6 that the message "*deleted*" appears beside the file just deleted. If you press the F10 (Refresh) key now, this file disappears.



The diagram above shows the screens involved in using the file management selection of FSI. Here is a summary of the steps involved:

1. From the main menu of FSI choose either "FLIB *" or "FLIB Filespec".
2. On the Library Management screen type options to do such tasks as editing, copying, or deleting files.
3. Control is transferred from FSI temporarily to different programs depending on the option specified on the previous screen. When the task is complete, the next task is started. When all tasks are finished, you return to the Library Management screen.

Chapter 6. Mail Facility

Chapter 6. Mail Facility

Overview

The Mail program on MUSIC is used to send electronic messages to your colleagues. These messages can be sent internally to another person at your institution, or externally to another country. Full documentation on the Mail facility can be found in the *MUSIC/SP Mail and Conferencing Guide* or by typing "MAN" and viewing the guide online. Also, help is available once the MAIL program is invoked by pressing F1. This chapter describes:

- How to Use Mail
- Sending Messages (exercise)
- Mail Directory
- Mail Profile
- External Mail
- Other Forms of Communication

How to Use the Mail Facility

The Mail Facility is invoked by choosing the topic "Mail" on the FSI main menu. The following diagram illustrates the main menu of Mail.

```

----- Mail Facility -----
Command ==>

Enter an option from the list below or a command, then press ENTER to process
the request.
Mail For ==> Janice Brown                                     (ID/nickname)

1 Read Incoming Mail
2 Create and Send Mail
3 Outgoing Mail (Acks and Unrec'd)
4 Mail Directory
5 Mail Profile
6 Public Directory
7 Mailbook Facility
8 List Manager
9 What is new in the Mail Facility
A Frequently Asked Questions (FAQ)
X Exit

COUNTS:
1 Incoming New Mail
4 Incoming Old Mail
3 Acknowledgements Waiting
1 Unreceived Outgoing Mail

----- 08.21.40
F1=Help F3=End F12=Retrieve

```

Figure 6.1 - Main Menu of Mail

Description of Main Menu of Mail

The following describes the fields on the screen in figure 6.1.

- | | |
|-----------------|---|
| Command => | This is the command area. Enter an option code from the list on the screen (1 - 9, A and X). |
| Mail For => | Your name or userid appears here. The procedure for adding your name to your mail profile is described in the section "Mail Profile". It is important to add your name so it will be included with your return address for all your outgoing mail. |
| Selection Codes | <p>The following selection codes are available from the main menu. Each selection is discussed in more detail later in this chapter.</p> <ul style="list-style-type: none"> 1 - Read Incoming Mail:
view list of all incoming mail items. 2 - Create and Send Mail:
for typing and sending your messages. 3 - Outgoing Mail (acks and unrec'd):
view list of your outgoing mail items. You can check to see if someone has read your message. 4 - Mail Directory:
You can assign names to an individual or a group of userids to make it easier to remember mail addresses. |

5 - Mail Profile:

This facility allows you to tailor the mail facility to your needs. For example, you have a choice of how the incoming and outgoing mail is sorted in the list.

6 - Public Directory:

This facility allows you to view a list of public nicknames maintained at your site.

7 - Mailbook Facility

This facility allows you to view an existing mailbook file. You must include a file name with the selection number (7 filename).

8 - List Manager

This selection invokes the LM (List Manager) program for maintaining BITNET or Internet discussion lists.

9 - What is new in the Mail Facility

This selection describes the new features of the Mail facility since the last version.

A - Frequently Asked Questions (FAQ)

This selection provides answers to frequently asked questions about electronic mail.

X - Exit:

Type "x" in the command area or press F3 to exit mail.

Counts

The number of incoming and outgoing mail items is displayed in the bottom right-hand corner of the screen.

Incoming New Mail:

is the number of incoming mail items that you have not read (no action has been taken).

Incoming Old Mail:

is the number of incoming mail items that you have looked at but have not deleted.

Acknowledgements Waiting:

is the number of your outgoing mail items that have been received (the receiver has read the mail you sent or taken some other action).

Unreceived Outgoing Mail:

is a combination of the number of your outgoing mail items that have NOT been received (no action has been taken by the receiver on the mail you sent) and suspended mail items.

Function Keys for Mail

Throughout this facility, the following keys are valid:

F1=Help provides help for the current screen display.

F3=End returns to the previous function. If you are viewing the main menu screen, then you exit from the Mail program.

F12=Retrieve displays the previous command in the command area. Up to 5 commands can be recalled.

PA1=Exit Mail cancels the current request and exits the Mail program.

Entering Commands

Mail commands and MUSIC commands are allowed in the command area. However, most tasks for Mail are done with function keys and select codes. You can type "HELP COMMANDS" if you wish information on Mail commands. MUSIC commands can be entered with a "/" in front to distinguish them from Mail commands. Unless you need to leave the Mail environment for another task, MUSIC commands are not necessary for Mail.

The "=" command is very useful to skip from one screen to another. Enter "=n" where *n* is the selection code from the main menu. For example, from the VIEW INCOMING MAIL screen, enter "=2" to bypass the main menu and go directly to the CREATE AND SEND MAIL screen.

Incoming Mail

Selection 1 on the main menu of mail is for reading incoming mail. Figure 6.2 below shows a sample of the VIEW INCOMING MAIL screen.

```
----- View Incoming Mail ----- Rec 1/5
Command ===>

Mail For ==> Janice Brown (ID/nickname)

Select Codes => A-Answer B-ReplyFrm C-Copy D-Delete F-Forward G-Get L-Listd
                P-Print R-Refuse T-Transfer U-Undel V-View X-Xlogdel Z-Zoom

      From           Date Sent Type Subject
_  CCDO@MUSICA.MCGI  23AUG90 Old final call
_  MUG@MARIST        23AUG90 Old Too much mail.
_  CCRMMUS@MCGILLM   24AUG90 Old change to user guide
_  CCMS000@MCGILLM   25AUG90 Old New Pcws ... Again
_  CCMS000@MCGILLM   27AUG90 New New Pcws

----- 08.24.31
F1=Help      F3=End      F7=Prev      F8=Next      F9=Loc
F10=Refresh  F11=Outgoing F12=Retrieve PA1=Exit Mail
```

Figure 6.2 - Incoming Mail

The VIEW INCOMING MAIL screen shows a list of all your incoming mail items. By default the list is displayed in ascending order by date received.

The "Command ===>" field at the top of the screen is for entering Mail commands. Most of the time this screen is manipulated through the use of select codes typed beside mail items and the use of function keys. Type "HELP COMMANDS" if you wish to learn about Mail commands.

Incoming Mail List

Beside each mail item is a space for you to type in a select code (as described below) to take some action on each piece of mail. The first column under the heading "From" is the userid or nickname of the sender(s). The "Date Sent" column lists the date the mail was sent to you. One of the following appears in the "Type" column:

New	- mail item has not been read yet
Old	- some kind of action has been taken on this mail item
Reply	- answer to one of your outgoing mail items

The last column of the incoming mail list displays 40 characters of the subject.

Select Codes

One of the following codes can be entered beside each incoming mail item. Several codes can be typed in at the same time. The select code used most often is V (View) for reading a new item.

A - Answer indicates that you wish to answer that particular mail item. You will go to the ANSWER MAIL screen where the "Reply-To" mail address and subject of the mail is displayed.

Note: The answer function of Mail is also available when you are viewing a mail item. The F2 (answer) key is used for this purpose.

B - ReplyFrm indicates that you wish to answer using the "From" address of that particular mail item.

Note: Sometimes a mail item has a "Reply-To" address and a "From" address. For example, with discussion lists, you can answer everyone on the list (default) or answer just to the individual. Select code A answers to the "Reply-To" address (discussion list). Select code B sends the answer to the "From" address (individual).

C - Copy Type "C" beside the mail that you want to copy and press ENTER to go to the COPY MAIL screen. Help is available when the COPY screen appears.

D - Delete Type "D" beside the mail that you want deleted from your list of incoming mail. These entries disappear when F10 (Refresh) is pressed, or when you exit Mail.

Note: The delete function of Mail is also available when you are viewing a mail item. The F6 (delete) key is used for this purpose.

F - Forward Type "F" beside the mail item to forward mail to another person. Help is available when the FORWARD screen appears.

G - Get Type "G" beside the mail item(s) and press ENTER to get (receive) a mail item that was sent to you via SENDFILE. You can tell the mail item was sent via sendfile when the mail subject starts with "Sendfile:". For more information type "HELP SENDFILE" in the command area.

L - Listd Shows the distribution list for mail if sent to more than one person.

P - Print Presents a screen that allows you to send the incoming mail to a printer. Help is available when the PRINT screen appears.

R - Refuse Allows you to refuse the mail item. The sender is notified that you refused to accept the

mail. You cannot view (or perform any other action) with the mail before refusing it. These entries disappear when F10 (Refresh) is pressed or the next time you view incoming mail. If you wish to automatically refuse mail from someone, see the Mail Profile Facility (select option 5 from the main menu).

T - Transfer	Type "T" beside the mail item to transfer mail to another person. Help is available when the TRANSFER screen appears.
U - Undel	Type "U" beside a mail item to retrieve it after you have accidentally deleted it. This function is only available for mail items that have been deleted, refused, or logged and deleted.
V - View	The "V" select code allows you to read the mail item. A tailored version of the VIEW program is used for this function of Mail.
X - Xlogdel	Copies the mail item to a file (specified in your Mail Profile) and then deletes the entry from your incoming mail list. This select code is similar to using "C" (Copy) and then "D" (Delete).
Z - Zoom	Type "Z" beside the mail to see what action has been taken on the mail item by you and the sender. The VIEW CONTROL INFORMATION screen is displayed. For example, you can tell if you have replied, copied, or printed the mail item. Help is available when the VIEW CONTROL INFORMATION screen appears. Select code "L" (LISTDIST) should be used if you want to see who on the list received the mail.

Example of Viewing Mail

After selecting "1" from the main menu, the list of incoming mail items is presented. In figure 6.3 three mail items have been chosen for viewing.

```

----- View Incoming Mail ----- Rec 1/5
Command ==>

Mail For ==> Janice Brown (ID/nickname)

Select Codes => A-Answer B-ReplyFrm C-Copy D-Delete F-Forward G-Get L-Listd
                P-Print R-Refuse T-Transfer U-Undel V-View X-Xlogdel Z-Zoom

      From           Date Sent  Type   Subject
v  CCDO@MUSICA.MCGI  23AUG90  Old    final call
v  MUG@MARIST        23AUG90  Old    Too much mail.
v  CCRMMUS@MCGILLM   24AUG90  Old    change to user guide
_  CCMS000@MCGILLM   25AUG90  Old    New Pcws ... Again
_  CCMS000@MCGILLM   27AUG90  Old    New Pcws

----- 08.24.32
F1=Help      F3=End      F7=Prev      F8=Next      F9=Loc
F10=Refresh  F11=Outgoing F12=Retrieve PA1=Exit Mail

```

Figure 6.3 - Selecting Mail Items for Viewing

When the ENTER key is pressed, the first mail item is displayed for viewing. After each item, you can press F3 to go to the next.

Figure 6.4 below shows the third file from the list above.

```
----- VIEW MAIL FILE -----          L 80      C 1-80          Rec 1/16
COMMAND ==>                               SCROLL ==> PAGE
*** TOP OF FILE *** -----VC/TEXTLC/IGNORE
Message-Id: <23AUG90.12875572.0021.MUSIC@MCGILLM>
Date:      Thu, 23 Aug 90 11:55:18 EDT
From:      Roy Miller <CCRMUS@MCGILLM>
To:        Janice Brown <CCJB@MCGILLM>
Subject:   change to user guide

I have a change to the users ref guide.
It is in the profile section.
Add the following text under AUTOPROG:

        The autoprog file can be a REXX file that can run
        several programs when you sign on.

*** BOTTOM OF FILE ***

F1=Help    F2=Answer  F3=End      F4=Forward  F5=Center  F6=Delete/Undelete
F7=Up      F8=Down    F9=Locate  F10=Previous F11=Next   F12=Retrieve
```

Figure 6.4 - Reading a Mail Item

In figure 6.4 the header information at the top of the screen includes the date and time the mail was sent, who it is from, who it was sent to, and the subject. The text of the mail item follows. At the bottom of the screen the following keys are listed:

- F2 (Answer) allows you to answer the mail item immediately.
- F4 (Forward) allows you to forward the mail.
- F6 (Delete/Undelete) allows you to delete and undelete the mail and its entry from your incoming mail list.
- F10 (Prev) allows you to view the previous mail item from the incoming Mail list.
- F11 (Next) allows you to view the next mail item from the incoming Mail list.
- F3 (End) returns to the VIEW INCOMING MAIL screen.

Outgoing Mail

After selecting "3" from the main menu, the list of outgoing mail items is presented. Figure 6.5 shows an example of the VIEW OUTGOING MAIL screen.

```

----- View Outgoing Mail -----
Command ==>

Mail For ==> Janice Brown (ID/nickname)

Select Codes => C-Copy D-Delete E-Expire L-Listdist P-Print R-Release
                S-reSum U-Undel V-View X-Xlogdel Z-Zoom

    To           Date Sent Type Subject
_ CCSM000@MCGILLM 12JUL90 Ack ordering software
_ CCRMMUS@MCGILLM 23AUG90 Ack program ordered?
_ golf+          28AUG90 Ack mpg classic
_ staff+         18AUG90 New Teacher's Guide

----- 08.24.33
F1=Help F3=End F4=Acks F5=Unrecd F7=Prev F8=Next
F9=Loc F10=Refresh F11=Incoming F12=Retrieve PA1=Exit Mail

```

Figure 6.5 - Viewing Outgoing Mail

This screen displays a list of all outgoing mail including those that were read (acknowledged) and those that were not received. This list can be separated by using F4 (Acks) to show only acknowledgements or F5 (Unrecd) to show only unreceived.

The "Command ==>" field at the top of the screen is for entering Mail commands. Most of the time this screen is manipulated through the use of select codes typed beside mail items and the use of function keys.

Outgoing Mail List

Beside each mail item is a space for you to type in a select code (as described below) to take some action on each piece of mail. The first column under the heading "To" is the userid or nickname of the receiver(s). If a plus sign (+) appears at the end of the name, it indicates that this is a nickname for a distribution list (see the topic "Mail Directory" later for information about creating nicknames). The "Date Sent" column lists the dates the mail were sent by you. The "Type" in column 33 can be one of the following:

Ack	- has been acknowledged
New	- no one has received it yet
Suspd	- suspended mail item

The last column displays 40 characters of the subject of the mail.

Select Codes

The following codes can be entered beside the list of outgoing mail. Several codes can be typed in at the same time, one for each item. Many of the codes are the same as the ones for the VIEW INCOMING MAIL screen.

C - Copy Copies the mail item. Help is available when the COPY screen appears.

D - Delete	Deletes the mail item. These entries disappear when F10 (Refresh) is pressed, or when you exit the Mail program.
E - Expire	Presents the EXPIRE MAIL screen that allows you to change the expiry date and time of the mail item.
L - Listdist	Shows the distribution list for mail if it has been sent to more than one person.
P - Print	Displays the PRINT MAIL screen for sending the mail item to a printer.
R - Release	Presents the RELEASE MAIL screen that allows you to change the release date and time of the mail item.
S - reSume	Presents the RESUME MAIL screen that resumes the sending of a suspended mail item.
U - Undelete	Restores the last mail item that was deleted.
V - View	The "V" selection code allows you to read the mail.
X - Xlogdel	Copies the mail item to a file (specified in your Mail Profile) and then deletes the entry from your outgoing mail list. This select code is similar to using "C" (Copy) and then "D" (Delete).
Z - Zoom	Type "Z" beside the mail to see what action has been taken on the mail item by you and the receiver. The VIEW CONTROL INFORMATION screen is displayed. Select code "L" (LISTDIST) should be used if more than one person received the mail.

Viewing outgoing mail is similar to viewing incoming mail. Refer to figure 6.3 to see an example of viewing mail items.

Creating and Sending Mail (Exercise 6)

In this section you will learn how to send electronic mail by doing the following:

- starting the Mail program
- typing the mail address, subject, and message
- viewing the mail item
- ending the Mail program

For this exercise, you will send a message to yourself. Normally, you would not send mail to yourself. However, for this exercise, you will learn how to send and receive a message.

There are many figures throughout this exercise illustrating each screen display. For each step, the instructions that you perform are printed in bold. Between each of the steps are details about the Mail program. *It is important to read the whole section carefully and not to skip from one step to the next without reading the text in between.*

Step 1 Select the "Mail" topic on the main menu of FSI to invoke Mail.

The following screen appears:

```
----- Mail Facility -----
Command ==> __

Enter an option from the list below or a command, then press ENTER to process
the request.
Mail For ==> userid                                     (ID/nickname)

1 Read Incoming Mail
2 Create and Send Mail
3 Outgoing Mail (Acks and Unrec'd)
4 Mail Directory
5 Mail Profile
6 Public Directory
7 Mailbook Facility
8 List Manager
9 What is new in the Mail Facility
A Frequently Asked Questions (FAQ)
X Exit

COUNTS:
0 Incoming New Mail
0 Incoming Old Mail
0 Acknowledgements Waiting
0 Unreceived Outgoing Mail

----- 08.24.34
F1=Help F3=End F12=Retrieve
```

Figure 6.6 - Main Menu of Mail

Your userid should appear in the "Mail For" field. If you wish to add your name to this field, you need to use the Mail Profile Facility. For now, you will be using your userid.

Step 2 Type "2" in the command area and press ENTER.

The CREATE AND SEND MAIL screen appears:

```

----- Create and Send Mail -----
Command ==>

Fill in the fields below and press ENTER to type the mail text.

To      => _
        =>

Subject  =>
        =>

Text File =>
        (Enter file name or leave blank to add additional text)

Carbon   =>
Copy     =>

Mailbook =>

----- 08.24.35
F1=Help  F3=End  F4=Mail Directory  F5=Public Directory
F6=Options  F12=Retrieve  PA1=Exit

```

Figure 6.7 - Create and Send Mail

In the next step you will address the mail to yourself by putting your userid in the "To" field. When you see the word "userid" replace it with your userid.

On this screen (figure 6.7) you will notice the function keys at the bottom. F4 allows you to go to the Mail Directory program for adding nicknames. You do not need to do this at this time. F6 brings you to the SEND MAIL OPTIONS screen for changing such things as release date and expiry date. The defaults settings are usually the best choices. For this exercise, you will not need to change any options.

Step 3 **Fill in the "To" (with your userid) and "Subject" field as in figure 6.8 below. Remember to use the TAB key to skip to each field.**

```

----- Create and Send Mail -----
Command ==>

Fill in the fields below and press ENTER to type the mail text.

To          => userid
            =>

Subject     => first mail item_          <
            =>                          <

Text File =>
            (Enter file name or leave blank to add additional text)

Carbon      =>
Copy        =>

Mailbook    =>

----- 08.24.35
F1=Help  F3=End  F4=Mail Directory  F5=Public Directory
F6=Options  F12=Retrieve  PA1=Exit

```

Figure 6.8 - Addressing the Mail

Step 4 Once the CREATE AND SEND MAIL screen is filled in (step 3), press ENTER.

The Mail program will now turn control over to the Editor temporarily for you to type in your message. The cursor will be on the first input line, ready for you to type. *Chapter 3 - Using the Editor* describes how to type in text. In this exercise the text consists of only one line, so you shouldn't have to refer back to that chapter.

Step 5 Type in the following: "This is my first mail item." as in figure 6.9.

```

@MAIL.NEW.0020                      L 80   W 1 72   Rec 1/0
==== This is my first mail item._
====
====
====
====
====
====
====
====
====
====
====
-----+---1-----+---2-----+---3-----+---4-----+---5-----+---6-----+---7---
                        * Input Mode *
** Enter the mail text, then press PF5 to send it                      Reading
   PFs: 1=Help    2=Split    3=Quit    4=Mark    5=Send    6=Del line
*EDIT* 7=Uppage   8=Downpage 9=Locate 10=Ins line 11=Input 12=Command

```

Figure 6.9 - Typing in the message using the Editor

Step 6 Press F5 to display the SEND command in the command area.

Your screen should look like figure 6.10:

```
@MAIL.NEW.0020                                L 80   W 1 72   Rec 1/1
==== *Top of file
>==== This is my first mail item.
==== *End of file

-----T--1-----2-----3-----4-----5-----6-----7--
Command: SEND
** Press the enter key to send the mail.                                Reading
PFs: 1=Help    2=Split    3=Quit    4=Mark    5=Send    6=Del line
*EDIT* 7=Uppage 8=Downpage 9=Locate 10=Ins line 11=Input 12=Command
```

Figure 6.10 - Sending the Message

Step 7 Press ENTER to process the SEND command.

The mail item is delivered to the mail address when the SEND command is entered (the FILE command is equivalent). Since you are sending this message to yourself, you receive a message for the receiver. The following displays over the text on your screen.

```
Mail has arrived for you from "userid"
```

Step 8 Press ENTER to clear this message.

You should now find yourself back at the CREATE AND SEND MAIL screen. There will be a message in bold at the top of the screen like this:

```
*** The mail has been sent.
```

Note: The message above about the arrival of mail is for the receiver. Since you sent the mail to yourself you got the receiver's message. Under normal circumstances when you send mail to another person, you would not see this message. You would only see the message for the sender saying the mail has been sent.

Step 9 Press F3 to go back to the main menu. Type the selection "1" to view incoming mail, press ENTER.

Your screen should look like this:


```

----- View Incoming Mail ----- Rec 1/1
Command ==>

Mail For ==> userid (ID/nickname)

Select Codes => A-Answer B-ReplyFrm C-Copy D-Delete F-Forward G-Get L-Listd
                P-Print R-Refuse T-Transfer U-Undel V-View X-Xlogdel Z-Zoom

    From          Date Sent Type Subject
_  userid        29AUG90  New  first mail item

----- 08.24.36
F1=Help      F3=End      F7=Prev      F8=Next      F9=Loc
F10=Refresh  F11=Outgoing F12=Retrieve PA1=Exit Mail

```

Figure 6.11 - Viewing a New Mail Item

Your cursor should be beside the first mail item.

Step 10 Type the "V" Select Code and press ENTER.

You should now be viewing your short message. In figure 6.12 you can see the headers at the top of the screen before your message. In shows the date the mail was sent and received, the mail address of the sender and the receiver, and the subject.

```

----- VIEW MAIL FILE ----- L 80 C 1-80 Rec 1/16
COMMAND ==> SCROLL ==> PAGE
*** TOP OF FILE *** -----VC/TEXTLC/IGNORE
From:      userid
To:        userid
Subject:   first mail item
X-Mailer:  MUSIC/SP V5.1.0

This is my first mail item.
*** BOTTOM OF FILE ***

F1=Help  F2=Answer F3=End   F4=Forward F5=Center F6=Delete/Undelete
F7=Up    F8=Down   F9=Locate F10=Previous F11=Next  F12=Retrieve

```

Figure 6.12 - View the Message

In the next step, you will delete this message by using the delete function key. It is important to delete any unwanted mail items. Otherwise, your incoming and outgoing mail lists will become too large to maintain properly.

Note: The Mail Profile facility lets you specify a file to store old mail items that you don't want to delete. This way you can store all your mail in one place for future reference without cluttering the incoming and outgoing mail lists.

Step 11 Press F6 to delete this mail item.

You are returned to the list of incoming mail and your screen should look like this:

```
----- View Incoming Mail ----- Rec 1/1
Command ==>
*** Entry deleted.
Mail For ==> userid                      (ID/nickname)

Select Codes => A-Answer B-ReplyFrm C-Copy D-Delete F-Forward G-Get L-Listd
                P-Print R-Refuse T-Transfer U-Undel V-View X-Xlogdel Z-Zoom

      From          Date Sent Type  Subject
_  userid          29AUG90  *Del  first mail item          *
```

```
----- 08.24.37
F1=Help      F3=End      F7=Prev      F8=Next      F9=Loc
F10=Refresh  F11=Outgoing F12=Retrieve PA1=Exit Mail
```

Figure 6.13 - Deleting Mail

Notice in figure 6.13 the message "*Deleted" appears beside the mail item. The next time you view incoming mail, this item will be gone.

Step 12 Press F3 to return to the main menu of MAIL.

You have now completed all the steps in this exercise on Mail. If you wish to return to FSI, press F3 to exit Mail.

Mail Directory

The DIRECT program allows you to create, change, and remove entries from the mail directory file. This file is used by the Mail facility to make it easier for you to refer to other users.

A directory file is a list of users (local or remote) with whom you communicate. Each "entry" in the file defines a user or group of users by a *nickname*. When you are sending mail, you can use the nickname in place of the person's mail address.

When you choose item "4" on the Mail's main menu, the DIRECT program is invoked. Figure 6.14 shows the MAIL DIRECTORY screen of this program.

```

----- Mail Directory -----
Command ==> _
*Firstrecord
Fill in the information below. The changes are not applied until PF3 is used.

Nickname ==> ADAM
Email Id ==> CCAE
      ==>

Name      ==>
Phone     ==>
Address   ==>
      ==>
      ==>
      ==>

List of   ==>
names     ==>
      ==>
      ==>
      ==>
      ==>

-----
F1=Help F3=File/Exit F6=Del F7=Up F8=Down F9=Loc F10=Insert F11=Print PA1=Can

```

Figure 6.14 - Mail Directory

When the Mail Directory program is started, the first record of the directory file is displayed. The fields on the screen are as follows:

Nickname is any name you choose to represent a single user or list of users. In figure 6.14 a sample entry is shown, where "ADAM" is the nickname that will represent the userid "CCAЕ".

Email Id is the full email address of the person whose nickname you specified. If this user is located on the same system as you, you can leave out the system name. You must leave this field blank if the nickname represents a list of users. The LIST OF NAMES field is filled in instead.

Name, Phone, Address

The name, phone, and address fields are not needed by the directory program. You can put any information you like in these fields, or leave them blank.

List of Names Specifies all the names of the people for a distribution list. The names in the list can be specified in the following ways:

1. The userid. Each userid is assumed to exist at the location specified by SYSTEM.
2. A nickname that is already defined in your mail directory.
3. A userid and a system name for people on other systems. For example:

userid@other

Where @ is used to separate the userid from the other system name.

Example of a Distribution List

Figure 6.15 below shows an example of a nickname representing several people.

```
----- Mail Directory -----
Command==> _

Fill in the information below. The changes are not applied until PF3 is used.

Nickname==> GOLF
Email Id==>
      ==>

Name      ==>
Phone     ==>
Address   ==>
      ==>
      ==>
      ==>

List of ==> CCSM CCKM CCMS CCEL CCFP CCGM CCDT
names   ==> ADAM JOYCE STEVE
      ==> GARY@SMU1.LAN.MCGILL.CA
      ==> ROSIE@SERVICE.LAN.MCGILL.CA
      ==>

-----
F1=Help F3=File/Exit F6=Del F7=Up F8=Down F9=Loc F10=Insert F11=Print PA1=Can
```

Figure 6.15 - Nickname for Several People

To send mail to all the people listed above, you need to use the nickname "GOLF" for the mail address. Notice that each person can be entered in the list of names in three ways. Here are some examples:

CCSM is the userid of someone on your system.

ADAM is a nickname that you have previously added to the directory file.

GARY@SMU1.LAN.MCGILL.CA
 is the full address of someone on another system.

See the section "External Mail" later in this chapter for information on sending mail outside your system.

Mail Profile

Item "5" on the main menu of Mail invokes the Mail Profile program (MPROF). It allows you to change the default settings for certain fields on the screens of the Mail program. After you have changed your mail profile, your values will appear on the screens instead of the pre-set values. For example, you can add your full name to display in the MAIL FOR field instead of your userid.

Help is available by pressing F1 (Help) once this program is invoked.

Figure 6.16 shows the first screen (main menu) of the Mail Profile program.

```

----- Mail Profile Facility -----
COMMAND ==>

Enter a SELECT OPTION, then press ENTER to process the request.

1  General Mail Options
2  Create and Send Mail Options
3  Print Mail Options
4  Incoming/Outgoing Mail Options
5  Refuse Mail Options
6  Surrogate Mail Options
X  Exit the Mail Profile Facility

----- 08.53.27
F1=Help  F3=End/Save  F12=Retrieve  PA1=Exit/Nosave

```

Figure 6.16 - Mail Profile Screen

When you start the Mail Profile program, there are several choices on the menu to choose from (1 - 6 and X). Each selection allows you to alter default values for different functions of the Mail program. Once you have made a selection, you can page forward to other selections on the main menu by using F8 (Next Item). This way you do not have to return to the main menu. Help is available with each screen by pressing F1.

Selection "1" on the main menu is for general mail options. Figure 6.17 shows a sample of this screen.

```

----- Mail Profile General Options -----
COMMAND ==>

Name          => Janice Brown
Email Id      => CCJB@MUSICM.MCGILL.CA

Forward       =>
mail to

Default Dates and Times
Release Date => _____ (dd/mm/yy)   Release Time => ____ (hhmm)
Expiry Date  => _____ (dd/mm/yy)   Expiry Time  => ____ (hhmm)

Initial Command ==> _____

----- 08.54.16
F1=Help  F2=Alt System  F3=End  F8=Next Item  F12=Retrieve  PA1=Exit/Nosave

```

Figure 6.17 - Mail Profile General Options

The GENERAL OPTIONS screen has the following fields:

Name Your name should be added to this field.

Email Id	is your full email address including userid and system name.
Forward mail to	Enter a email address or nickname in this field if you wish all your mail to be received by another person.
Default Dates and Times	Whenever you send mail, the Mail program includes default dates and times for release and expiry of each mail item. The release of mail is done at the current date and time and the expiry is in one year from the current date. It is recommended that you leave these fields as is. Release and expiry times can be changed for an individual mail item at the time of sending it.
Initial Command	Enter a selection code from the main menu of Mail in this field. For example if you enter "1", then whenever you invoke the mail program you will go directly to the "View Incoming Mail" screen, bypassing the main menu of Mail. The following are the list of selection codes on the main menu: <ul style="list-style-type: none"> 1 Read Incoming Mail 2 Create and Send Mail 3 Outgoing Mail (Acks and Unrec'd) 4 Mail Directory 5 Mail Profile 6 Public Directory 7 Mailbook Facility 8 List Manager 9 What is new in the Mail Facility A Frequently Asked Questions (FAQ) X Exit

Function Keys for the Mail Profile Facility

The following function keys are valid:

F1	Help provides help for each screen.
F2	Alt System selects an alternate system for your profile (General Options screen only). If your MUSIC system is known by a number of aliases, you can choose which one of these alternates to use for your system name. This is helpful when you are sending mail to a system which does not understand domain names e.g. music.univofx.edu. In this case, you would want to use your BITNET (RSCS) nodename e.g. univxmus. See the section "External Mail" for information about sending mail outside your system.
F3	End returns to the main menu of the Mail Profile. If you are viewing the main menu of the Mail Profile, then all changes made to the profile screens are saved and you exit the Mail Profile Facility.
F7	Previous Item goes to the previous screen (for selections 2 - 6).
F8	Next Item goes to the next screen (for selections 1 - 5).

- F12 Retrieve
redisplay the last command entered in the command area. Up to 5 previous commands can be recalled.
- PA1 Exit/Nosave
exits the Mail PROFILE program and ignores changes made to any screens.

IMPORTANT: No changes to your mail profile are recorded until you press F3 to exit the facility. If you use PA1, then changes to any of the profile screens are ignored.

External Mail

It is possible to send mail outside of your MUSIC system to another system on your mainframe computer or to another computer. Check with your installation to see what is supported.

Many educational institutions are members of BITNET or the Internet. These networks provide access to other colleges and universities around the world. Many institutions host discussion lists that provide a forum for people to discuss topics of interest.

To join a discussion list, use the "List Manager" selection on the MAIL main menu. (Your institution must have access to BITNET or the Internet.) Help is provided once this selection is made.

If your institution has access to BITNET or the Internet, then you can send messages to other institutions. The only difference in sending mail outside your system is the longer mail address needed. (Nicknames come in handy for storing long mail addresses.) Be careful when taking note of someone's electronic mail address, not to miss any characters. Once the mail has left your system, there is no way to keep track of where it goes.

If you wish, try sending a message to the the MUSIC Product Group of McGill University. We would appreciate hearing from you about your experience with this guide. Were you able to learn MUSIC easily? Do you have any comments for improving future editions?

Our electronic mail address is:

NEWUSER@MUSICM.MCGILL.CA

Other Forms of Communication

Conferencing

The CONF program offers a forum for MUSIC users to discuss topics of mutual interest. An electronic conference can contain several topics that you can add your comments to. More information can be found in the help topic "CONF".

Discussion Lists

Through e-mail you can join discussion lists. The LISTSERV software on BITNET provides a forum for you to discuss topics of interest with other computer users at different sites.

MCS (MUSIC/SP Client/Server)

The client/server software is available for users to communicate easily between their own computer and a computer running MUSIC. The software runs on a PC platform and uses the familiar graphical user (GUI) interface. E-mail can be done offline and later sent through MUSIC. MCS is described in the help topic "MCS" (complete documentation is included on the MCS diskette).

Internet Access

The Internet is a large network encompassing heterogeneous sites world-wide. The TELNET and FTP commands provide access to other computer sites. TELNET lets you sign on other computers (provided you have a userid and password), and FTP lets you transfer files to and from other sites. Many sites allow anonymous access.

The *MUSIC/SP Internet Guide* describes various ways to communicate using different MUSIC programs. The following is a brief description of some of these methods:

- News Reader: The RN program on MUSIC provides access to Usenet. Through this interface you can: read incoming news from a variety of news groups, post your own news items, and follow-up on existing items.
- Gopher: GOPHER is a command that accesses the Internet Gopher Protocol for document search and retrieval. Users can view documents residing on many different computers connected to the Internet.
- Web: MUSIC includes a Web line-mode browser and a Web server. The Web server allows users to store WWW (World-Wide Web) documents ready for access by a Web browser on your computer. These documents include HTML (HyperText Markup Language) tags. More information about creating these files on MUSIC can be found in the *MUSIC/SP Internet Guide*.

Using the Mail Facility

- Choose the "Mail" topic on the FSI main menu to start the Mail Facility.
- The main menu of Mail has the following selections:
 - 1 Read Incoming Mail
 - 2 Create and Send Mail
 - 3 Outgoing Mail (Acks and Unrec'd)
 - 4 Mail Directory
 - 5 Mail Profile
 - 6 Public Directory
 - 7 Mailbook Facility
 - 8 List Manager
 - 9 What is new in the Mail Facility
 - A Frequently Asked Questions (FAQ)
 - X Exit

Viewing Mail

- All incoming mail items are added to the VIEW INCOMING MAIL screen. You are sent a message informing you when mail arrives.
- When you send mail, the mail items are added to the VIEW OUTGOING MAIL screen. You can check to see if the receiver has read your mail.
- After viewing a mail item, you can delete, forward, copy, print, or transfer that item.
- It is a good idea to delete or log your mail items to keep the incoming and outgoing mail lists manageable.

Create and Send Mail

- You need to include the person's mail address and subject of the mail item.
- The Mail program gives control to the Editor temporarily for typing the text of your mail.
- You will receive a message indicating that the mail has been sent.
- A mail item is not included in your outgoing mail list when mail is sent outside your MUSIC system.

Mail Directory

- You can assign a nickname to represent a person's mail address.
- The nickname can represent a group of people for distributing several copies of your mail item.

Mail Profile

- This program lets you tailor the Mail program to suit your needs.
- You should include your full name on the first screen of the Mail Profile program. Your return address will then include your name as well as your userid.
- The Mail Profile program includes these selections:
 - 1 General Mail Options
 - 2 Create and Send Mail Options
 - 3 Print Mail Options
 - 4 Incoming/Outgoing Mail Options
 - 5 Refuse Mail Options
 - 6 Surrogate Mail Options
 - X Exit the Mail Profile Facility

Other Forms of Communications

- See the *MUSIC/SP Internet Guide* for information about different methods of communicating on MUSIC.

Chapter 7. Additional Features

Chapter 7. Additional Features

Overview

This chapter discusses the selections on the FSI main menu that have not been covered so far. In addition to these selections, other programs of general interest are described.

This chapter includes the following:

- Submitting and Printing Jobs
- OUTPUT Management Facility
- TODO
- MUSIC/SCRIPT
- Menu Facility for Teachers
- HELP Facilities
- MUSIC Profile

FSI Main Menu

```

Help   End   Up     Down   Top     Bottom Main   Scan   Find   Topic  Quit
-----Full Screen Interface for MUSIC----- Page 1/1
Command ==>
Date: 16Jun94 13:50:52                                Updated: 09Jun94 15:00
Place the cursor on an item and press ENTER or RETURN.

MUSIC tools:
  Mail           Electronic mail facility
  Programming    Compilers, processors, tutorials, etc
  CI             Course Information
  Internet       Internet access, news reader, gopher, etc
  More           Other general MUSIC tools

MUSIC files:
  FLIB *         Full Library Screen for all files
  FLIB           Filespec=>                        < pattern
  FUTIL          Other file related utilities

MUSIC environment:
  Help           General help and online documentation
  New Password   Change your password
  Defaults       FSI customization
  Profile        Profile utility and options
  Disconnect     Terminate your session and disconnect from MUSIC
  \Suggest       Make a suggestion or send a comment to support staff

F1=Help      F3=End      F9=Find      F12=Retrieve

```

Figure 7.1 - Main Selection Screen of FSI

Each topic from the main selection screen of FSI is described briefly below. It is indicated if the selection is covered in more detail in this chapter, in a previous chapter, or in another MUSIC manual. Note that online help is provided with each selection by pressing F1.

Mail	invokes the Mail facility to send and receive electronic mail. This selection is described in <i>Chapter 6 - Mail Facility</i> .
Programming	invokes the FSI interface to the available compilers and processors at your institution. This selection is described in <i>Chapter 4 - Programming</i> .
CI	invokes the Course Information menu for students. This facility is described in the <i>MUSIC/SP Teacher's Guide</i> .
Internet	Displays the INTERNET menu providing many choices for accessing other computer sites (FTP, Gopher, Telnet, etc.). Help is provided once the menu is selected. See the <i>MUSIC/SP Internet Guide</i> for details.
More	Displays the TOOLS menu providing topics for accessing common programs on MUSIC. Help is provided once the menu is selected.
FLIB *	
FLIB filespec	allows you to copy, rename, and delete files from a file selection list and display information about the files in your library. This selection is described in <i>Chapter 5 - File Management</i> .

FUTIL	displays the FSI File Utilities menu allowing access to such programs as SORT, PROFILE, ENCRYPT, SPELL, etc. Help is provided once this topic is selected.
Help	displays the FSI Help menu for selecting the general help facility of MUSIC and all online manuals. See "Help Facilities" in this chapter for more information.
New Password	invokes the NEWPW program for changing your userid password. See <i>Chapter 2 - Getting Started</i> under the topic "Changing your password (Exercise 1)" for more information.
Defaults	allows you to create your own default parameters for FSI. It sets interface parameters and changes your password. Help is provided once this topic is selected.
Profile	displays the FSI Profile menu for changing the most common functions of the PROFILE program. Choices on the this menu include accessing the complete PROFILE program and the PROFILE help facility.
Disconnect	terminates your session and disconnects from MUSIC.

Submitting and Printing Files

FSI includes two screens that provide interfaces between you and the SUBMIT and PRINT programs of MUSIC. Instead of having to remember the parameters of these two programs, you can fill in the appropriate fields on the SUBMIT or PRINT screens.

When you become more familiar with MUSIC, you may want to use the SUBMIT and PRINT commands instead. These commands can be entered in the command area of any screen. These commands are described in *Chapter 8 - MUSIC Commands*. Also, the SUBMIT and PRINT programs are accessed through the FLIB topic of FSI.

SUBMIT Program

The SUBMIT program is used to process files through a batch facility. Batch is used most often for programs that generate a lot of output for the printer or for tape jobs.

You can submit batch jobs from your workstation using the SUBMIT screen (figure 7.2). To access this screen choose the "FUTIL" topic on the FSI main menu, then select "Submit". Batch jobs can print at a specified printer, routed back to your workstation, or sent to other operating systems (your installation may have restrictions). While your job is running in batch, you can continue to work on MUSIC.

Note: Another method of running one job while you do other tasks is to use another MUSIC session. Multi-Session support allows a number of separate sessions to be signed on to MUSIC from one workstation. See the *MUSIC/SP User's Reference Guide* for more information or type "/HELP MS" to receive online help.

The following illustrates the SUBMIT screen:

Help	End	Up	Down	Top	Bottom	Main	Scan	Find	Topic	Quit
-----Submit-----										Page 1/1
Command ==>										
Date: 16Jun94 15:13:32						Updated: 06Jun94 16:17				
Fill in the fields and press ENTER or RETURN.										
Current directory => \										
Current route => HP										
File =>										<
Output dest. =>						< location to print job output				
Time limit		=>		< 0-998 minute, 999-unlimited						
Page limit		=>		< 0-998 pages, 999-unlimited						
Job class		=>		< AA, AO, SA, SO, TA, TO						
Job info		=>		<						
System		=>		< fill in if submitting to another system						
F1=Help F2=Ask F3=End F7=Up F8=Dn F9=Find F10=Top F11=Bot F12=Ret PA1=Quit										

Figure 7.2 - Submit Selection Screen

To submit a job, fill in the file name and any options on the SUBMIT screen and press the ENTER key. The fields on the screen are described below.

Current directory The directory that you are currently working with is displayed in this field. You cannot change this field. You can supply the full file name (path included) in the "File" field to submit files from other directories.

Current route The current route destination is displayed in this field. You cannot change this field. You can supply a new route destination in the "Output dest." field.

File is the name of the file containing the batch job.

Output dest. is the name of the printer where the output of the batch job is to be printed. Check with your installation about valid printer (route) names. Specifying MUSIC will cause the output to be sent back to the system output queue, where it can be inspected using the OUTPUT Management Facility (described later in this chapter). Specifying SYSTEM will print the output on the default system printer.

Time Limit specifies the time limit for the batch job. For a MUSIC batch job, this should be in the range 1 to 999 in units of 60 service units. The value 999 is used to specify unlimited time.

Page Limit specifies the maximum number of printed pages that the batch job can produce. For MUSIC batch the number should be in the range 1 to 999. The value 999 is used to specify no limit.

Job Class specifies a two character MUSIC job class. It determines the type of job and its priority.

AA - No special handling, run right away.

SA - Requires special handling, run right away.

TA - Requires a tape, run right away.
 AO - No special handling, run after 6 pm.
 SO - Requires special handling, run after 6 pm.
 TO - Requires a tape, run after 6 pm.

Job Info Any job information that is to override the system defaults or any user supplied /INFO statements can be entered in this field. Type "/HELP INFO" for details about the /INFO job control statement.

System specifies the name of the system that the job will be submitted to.

PRINT Program

The PRINT program is used to print files on a specified hardcopy printer. By filling in FSI PRINT screen, you supply the necessary information for the PRINT program. To access this screen choose the "FUTIL" topic on the FSI main menu, then select "Print".

The following illustrates the PRINT screen:

```

Help   End   Up     Down   Top    Bottom Main   Scan   Find   Topic  Quit
-----Print----- Page 1/1
Command ==>
Date: 16Jun94 15:16:33                               Updated: 06Jun94 16:16
Fill in the fields and press ENTER or RETURN.

Current directory => \

Current route => HP

File => <

Output dest.  => < location to print job output

Carriage ctl. => N < Y=yes, N=no

Copies        => 1   < 1-999

Forms         => <

F1=Help  F2=Ask F3=End F7=Up F8=Dn  F9=Find  F10=Top  F11=Bot F12=Ret PA1=Quit
  
```

Figure 7.3 - Print Selection Screen

Fill in the file name and options on the PRINT SELECTION screen and press the ENTER key. The fields on the screen are described below. The file name field must be filled in, other fields are optional.

Current directory

The directory that you are currently working with is displayed in this field. You cannot change this field. You can supply the full file name (path included) in the "File" field to print files from other directories.

Current route	The current route destination is displayed in this field. You cannot change this field. You can supply a new route destination in the "Output dest." field to print files at another printer.
File	is the name of the file to be printed.
Output dest.	is the name of the printer (or route destination). Check with your installation about valid printer names. Specifying MUSIC will cause the output to be sent back to the system output queue, where it can be inspected using the Output Management Facility (described later in this chapter). Specifying SYSTEM will print the output on the default system printer.
Carriage Ctl	Specify Y in this field if the file to be printed already contains carriage control characters. If not specified, carriage controls will be added when the file is printed.
Copies	is the number of copies required.
Forms	is a valid forms specification. Check with your installation about valid forms names.

Output Management Facility

The Output Management Facility allows you to inspect batch output from your workstation. Output from MUSIC batch jobs is sent to this facility by specifying MUSIC as the output destination. Other operating systems such as VSE, MVS, or CMS can be set up to send printed output to MUSIC in this way (consult your installation for details).

Figure 7.4 illustrates the OUTPUT FACILITY screen with sample jobs included. To access this screen choose the "FUTIL" topic on the FSI main menu, then select "Output".

----- OUTPUT Facility -----							1 File
Command ==>							
Req	Idnum	Owner	Name	Route	Date	#Cop	Forms #Recs

_	0518	ABCD	MUSJOB	MUSIC	01OCT92	1	314
_	0519	ABCD	MUSJOB	MUSIC	01OCT92	1	102
-----29APR93 10:19----							
Req	Codes:	V:View	B:Browse	E:Edit	C:Copy	P:Print	H:Hold D>Delete
Keys:	F1:Help	F3:Exit	F4:Top	F5:Bottom	F7:Up	F8:Down	
	F9:Locate	F10:Refresh	F11:All	F2,F12:Retrieve	Cmd		

Figure 7.4 - Output Management Screen

For full documentation, see the *MUSIC/SP User's Reference Guide*; or press F1 from the OUTPUT

FACILITY screen; or type "/HELP OUTPUT" from the command area of any screen.

Time, Office, and Documentation Organizer (TODO)

The TODO facility provides access to programs relating to office applications. For non-programmers, this facility may be better suited to your needs.

You can access TODO from the FSI utility menu, or you can enter "TODO" in the command area or in *Go mode. If you wish the TODO facility to display automatically when you sign on to MUSIC, use the AUTOPROG option for your MUSIC profile (See the topic "MUSIC Profile" later in this chapter.)

Figure 7.5 illustrates the TODO main menu:

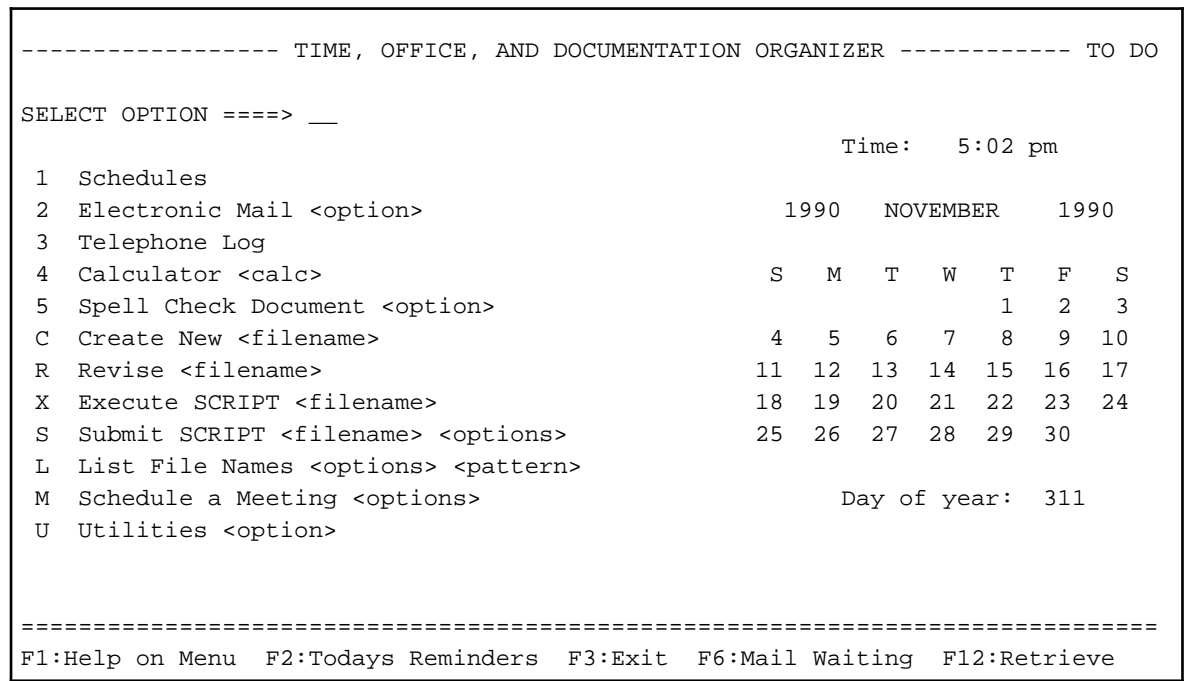


Figure 7.5 - TODO Main Menu

The menu in figure 7.5 provides selections for many office applications such as electronic mail and word processing. Electronic mail is described in this guide in *Chapter 6 - Mail Facility*. The other selections on the TODO screen for schedules, telephone log, spell checking, etc. are described in the *MUSIC/SP Office Applications Guide*. The word processing program that is included with MUSIC is called MUSIC/SCRIPT and is briefly described as follows:

MUSIC/SCRIPT

MUSIC/SCRIPT is the program used to format documents from files that are prepared using the Editor. MUSIC/SCRIPT documents consist of lines containing the text that make up the final document, and lines that contain formatting instructions. These formatting instructions are called control words. The control words are used only to inform MUSIC/SCRIPT on how to format the text and are never printed in the final output document.

Menu Facility for Teachers

This system allows teachers to communicate with their class via the computer. The teacher uses the CM (Course Management) command to manage the course material and the students use the CI command (Course Information) to access the information you have prepared.

The Course Management Facility basically does three things. It allows you to create and manage files and make them accessible to the class in the form of notes, assignments or a course outline. The files are kept in your library and are accessible to the students because they have the SHR option, allowing the students to read them but not change them.

The system also maintains a class mailing list. This list contains the sign-on IDs and names of the students in the class. It is used to access the student files and to send mail to individuals or the entire class.

You are also able to manage the students computer resource allocations and change their passwords. This is done using the TRANS\$ program.

```
Help   End   Up     Down   Top    Bottom Main   Scan   Find   Topic  Quit
-----Course Management for EL101----- Page 1/1
Command ==>
      1 *NEW* mail items and      0 replies waiting
TAB (or use arrow keys) to move cursor to a topic name and press the ENTER key

Managing Information:
MAIL           Receive and send electronic messages
POP            Update the pop file
OUTLINE        Update course outline
NOTES          Update course notes
ASSIGNMENTS    Assignments management
LIST           Class list management
DOCS           Online documentation

Managing Student Environment:
TAILOR         Tailor student menu with extra options
CI             Invoke CI as a student

Additional Tools:  CONFERENCES    Electronic CONFERences MANagement
                  FILES           View student files
                  AGENDA          Invoke TODO facility
                  TRANS$          Transfer funds and change passwords
F1=Help  F2=Ask  F3=End  F7=Up  F8=Dn  F9=Find  F10=Top  F11=Bot  F12=Cur  PA1=Quit
```

Figure 7.6 - CM Facility for Teachers

For more information about CM and other material for teachers, refer to the *MUSIC/SP Teacher's Guide*.

Help Facilities

Most programs on MUSIC provide help and can be accessed by pressing F1 or typing "HELP". To access MUSIC's general help facility you must be in *Go mode or use a slash (/) preceding the HELP command when you are not in this mode. The general help facility can be invoked in three ways:

1. Press F1 in *Go mode.
2. Enter "HELP" or "HELP topicname" in *Go mode. (topicname is the name of a valid topic, i.e. "HELP FORTRAN". To get a list of topics enter "HELP TOPICS".)
3. Enter "/HELP" or "/HELP topicname" from the command area of a program. (Without the "/" you will receive help on the current program you are using, and not MUSIC's general help facility.)

Important Keys

To manipulate the information screens the following keys are available:

- PA1 Immediately terminates the help facility.
- F1 Gets help on how to manipulate the screen (the text you are currently reading).
- F2 Send a mail item to the help facility administrator.
- F3 Terminates the current topic and either proceeds forward when multiple menu items have been chosen, or returns to the previous topic. (F3 exits the help facility when you are at the first topic you started with.)
- F7 moves up one screen full.
- F8 moves down one screen full.
- F10 moves to the first page of the current topic.
- F11 moves to the last page of the current topic.
- F12 moves cursor to the command area or select area.

Highlighted Topic Names

When topic names are highlighted on the screen, you can place your cursor on the highlighted name and press ENTER to view that topic. The TAB key should be used to position your cursor on these highlighted names.

The following illustrates MUSIC's General Help Facility:

```

Help   End   Up    Down  Top    Bottom Main   Scan   Find   Topic  Quit
----- MUSIC HELP FACILITY ----- Page 1/1
Command ==>
Date: 29Apr95 10:44:38                               Updated: 22Mar95 10:51
Select _  1 New User      -what a new user should know
          2 Commands   -MUSIC command language from *Go
          3 Editor     -using the MUSIC editor
          4 Messages   -system messages and their meanings
          5 Programming -Compilers, Loaders, Interpreters, Processors
          6 Script     -SCRIPT and other utilities for word processing
          7 Terminals  -descriptions and how to use terminals and PCs
          8 Utilities  -MUSIC utility programs
          9 Batch     -how to submit a job to MUSIC batch (background job
         10 Subroutines -MUSIC subroutines
         11 Tutorials  -on programming languages (Rexx, VS Fortran, ...)
         12 Internet  -programs to access the Internet
          T Topics    -list of help topics available
          H Help      -how to use this help facility
          N Whatsnew  -What is new with MUSIC

F1=Help  F2=Ask  F3=End  F7=Up  F8=Dn  F9=Find  F10=Top  F11=Bot  F12=Cur  PA1=Quit

```

Figure 7.7 - MUSIC General Help Facility

MUSIC Profile

Your user profile contains such things as your sign-on password, default tab character and tab columns, job time limits, etc. The PROFILE program is used to change or display these options. To use the Profile program, choose the topic "Profile" on the FSI main menu. Choices on the "Profile" screen include accessing the complete PROFILE program and the PROFILE help facility.

Note: Any changes made to your profile options (except passwords) do not take effect until the next time you sign on.

Options

There are many options available with the PROFILE program. For full documentation about this program refer to the *MUSIC/SP User's Reference Guide* or type `" /HELP PROFILE"`. Here is a description of the most common ones.

- | | |
|---------------|--|
| AUTOPROG(x) | Gives the file name of a program that will automatically be executed each time you sign on. The name can be up to 22 characters long. To remove the name, type AUTOPROG(). You are not allowed to change the autoprog name if it is marked as not cancellable. Abbreviations: AUTO, PROG |
| ALWAYSPROG(x) | Gives the file name of a program that is to be executed whenever your workstation would otherwise be in *Go mode. For example, this could be a menu program that lets you choose the next thing to do. To undefine the always program, type ALWAYSPROG(). You are not allowed to change the name if it is marked as FIXED. Abbreviations: ALWAYS, ALPROG |

Note: If the always program does not work correctly (or does not exist), and you get stuck in a loop, don't panic! Go into attention mode (by pressing PA1 or BREAK), then type /CAN ALL. This should return you to *Go mode. You can then run PROFILE and change the always program name.

BATCHPW(x)	Defines a new batch password (1 to 8 characters). This password may be required when you run a batch job. Abbreviation: BPW
END	Terminates the PROFILE program. Must be entered at the beginning of the command line.
HELP	Displays a description of the PROFILE program and options. Must be entered at the beginning of the command line. The text displayed is taken from the public file PROFILE.HELP.
INVIS	Makes your id invisible to programs like FINGER. You can use this option if you do not wish other users to know that you are signed on.
LANGUAGE	This specifies the national language you prefer for messages, etc. The change will take effect the next time you sign on. Not all applications support all languages. If an application does not support the language you request, it uses English. National language names are: English, French, Kanji (Japanese), Portuguese, Spanish. Other language names MAY also be accepted. Most language names have a 2 or 3-character abbreviation, for example LANG(ENG). To remove the LANGUAGE option, specify LANGUAGE() or LANGUAGE(DEFAULT), both of which use the site-dependent default language. Abbreviation: LANG
NEWPW	Allows you to change your sign-on (userid) password. This password can be from 1 to 8 characters long.
ROUTE	Assigns a default route destination for your userid.
SHOW	Displays your complete profile. A blank command line is equivalent to SHOW.
SHOW\$	Displays the dollar limit for your userid, and the amount used so far. These values are also included in the output of the SHOW command. Abbreviation: \$
SHOWSPACE	Displays the current total space occupied by your files (in units of K = 1024 bytes), and also your file space limits (if any). Abbreviation: SHOWSP
TERMINAL(x)	Defines the type of workstation you use. 3270, 3101, and PCWS are examples of terminal type names. A terminal name must be defined in order for the OTABS (output tabs) and BACKSPACE options to be honoured. Refer to the trmcls parameter of the /ID command for more details in <i>Chapter 8 - MUSIC Commands</i> . To remove this option, type TERMINAL(). Abbreviation: TERM

Example

```
*In progress

User Profile - Enter command or HELP
?
-> autoprog(todo)
Enter your current MUSIC sign-on password
?
```

```

->
  CHANGED
  ?
-> show
  USERID=SPQR                FILE OWNERSHIP ID=SPQR                TYPE(0)
  ID=987-6543                NAME=JULIUS CAESAR
  TIME LIMITS (IN SERVICE UNITS):
    PRIME=100  NONPRIME=200  BATCH=200  DEFAULT=100
  MAX NUMBER OF EXTRA SESSIONS PER TERMINAL:    5
  PASSWORD CAN BE CHANGED BY USER
  CONCURRENT SESSIONS (ON DIFFERENT TERMINALS) ARE NOT ALLOWED
  *IN PROGRESS MESSAGES ARE SUPPRESSED
  AUTOPROG:  TODO                                (CANCELLABLE)
  TERMINAL TYPE:  3270                (0C)
  INPUT TABS:    10  16  35
  NO OUTPUT TABS
  FUNDS ($):      4053.76 USED,  NO LIMIT
  SAVE LIBRARY:  TOTAL =  858K  LIMIT = 10000K  MAX/FILE =(NO SET LIMIT)
  MAX TRACKS PER DATA SET (UDS) AT ALLOCATION:    50
  LAST SIGN-ON:  1990/03/04 10:36  LAST BATCH JOB: 1990/02/04 08:30
  LAST PASSWORD CHANGE:  TERMINAL PW 1990/02/21  BATCH PW 1990/02/21
  PASSWORD LIFETIME:  NO LIMIT
  USERID OF CREATOR:  $000000
  ?
-> end

```

SUBMIT

Select the topic "FUTIL" on the FSI main menu, then select "Submit". This program lets you send files to batch for processing. You can also type the SUBMIT command and parameters in the command area of any screen.

PRINT

Select the topic "FUTIL" on the FSI main menu, then select "Print". This program lets you print a listing of MUSIC files. You can also type the PRINT command and parameters in the command area of any screen.

OUTPUT

The Output Management Facility is for retrieving jobs routed to "MUSIC" through SUBMIT.

FSI Defaults

Selecting the topic "Defaults" on FSI main menu lets you change some FSI parameters to tailor FSI to your needs.

MUSIC Profile

The PROFILE program allows you to change your profile for the MUSIC system. For example, you can specify the AUTOPROG parameter to tell MUSIC which program you want to display automatically each time you sign on.

TODO

The TODO (Time, Office, and Documentation Organizer) facility is for office applications. You can invoke this facility through the utility menu of FSI or by typing "TODO" in MUSIC command mode.

MUSIC/SCRIPT

The MUSIC system includes a word processing program called MUSIC/SCRIPT.

CM

The CM menu facility is for teachers. It provides an easy way for instructors and students to communicate.

Chapter 8. MUSIC Commands

Chapter 8. MUSIC Commands

Overview

MUSIC commands are instructions to the MUSIC system to perform a function or to invoke a program. This chapter gives a brief description of the commands that are available with MUSIC. These commands can be entered in *Go mode, or in the command area of many programs on MUSIC such as: the Editor, FSI, TODO, MAIL, OUTPUT, etc..

Note: See the help topic "ALIASCMDs" for a list of command equivalents to UNIX, CMS, and DOS.

Issuing MUSIC Commands from *Go Mode

When you are signed on to MUSIC and there is no program (such as FSI) running on your workstation, the "*Go" message displays on the screen. MUSIC is now waiting for your instructions.

To enter a MUSIC command from *Go mode, type in the command name (and optional parameters) and press ENTER. MUSIC processes the command and once the function is complete, you are returned to *Go mode. For example, the command TIME displays the time and then returns to *Go mode.

If the command you enter invokes a program, then you return to *Go mode after you exit the program. For example, the command "FSI" invokes FSI; when you press F3 (exit) from the main selection screen, you return to *Go mode.

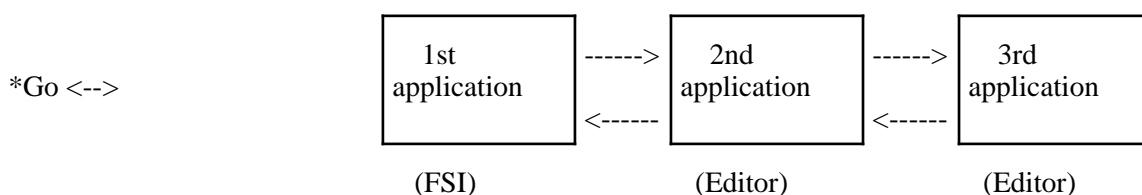
Note: Some users may never see *Go mode. This happens when the user's MUSIC profile includes a non-cancellable always program. (See the PROFILE description in *Chapter 7 - Additional Features* for information.)

Issuing MUSIC Commands from a Program

You can type MUSIC commands in the command area of many programs on MUSIC. Use a slash (/) in front of a MUSIC command. (The "/" can be omitted in most cases, but is necessary to distinguish MUSIC commands from the current program's commands when the command name is the same; example: HELP.)

Multiple Applications

The following diagram shows how MUSIC handles multiple applications. An application could mean to perform a MUSIC function or to invoke a program.



In the above diagram, FSI and the Editor were used as examples of MUSIC applications. The following events took place in the above example:

1. The user signs on to MUSIC in *Go mode.
2. The MUSIC command "FSI" is entered (1st application).
3. Item 1 from the FSI main selection screen is chosen. The Editor is invoked and a new file is started (2nd application).
4. While typing this new file, the MUSIC command "/EDIT filename" is entered in the command area. The Editor is invoked once more and a second edit session is started (3rd application).
5. Once the 3rd application is ended (file is saved), the 2nd application resumes. When the 2nd application is ended, the 1st application resumes, etc..

MUSIC Command Descriptions

The following is a list of available MUSIC commands. Should you require more details about a specific command, enter "/HELP command", where *command* is a valid MUSIC command name. Full documentation about MUSIC commands can be found in the *MUSIC/SP User's Reference Guide*.

Some of the commands are covered by items in the FSI facility. For example, FSI has a SUBMIT item on the main selection screen and there is also a SUBMIT command described below.

Important Notes

1. Below each command, where applicable, is the minimum abbreviation allowed. In some cases there may also be a variation of the form of the command.
2. Lower case portions of commands are variable quantities or character strings that you supply.
3. Upper case portions of commands are actual keywords and their spelling is fixed as such.
4. All commands and other input need not be entered in upper case, all lower case is translated to upper case.
5. Alternate corresponding options are found directly below their counterparts.
6. All parameters (options) within square brackets ([]) are optional. **Do not type the brackets []'s.**
7. Most commands are valid in command mode. For other commands, the contents of angular brackets (<>) indicates the valid modes for using them. These modes are Break, Command, and conversational Read. MUSIC Commands must be preceded by a slash (/) when entered during Break mode.

ACCESS

Allows you to access to systems outside of MUSIC such as CMS, VSE, MVS, and other MUSIC systems using the MUSIC Passthru interface. Type HELP ACCESS for more information.

```
ADD
```

Creates an extra MUSIC session. New sessions are added (F4) in a chain that can be accessed using the PREVIOUS (F7) and NEXT (F8) commands. Sessions are deleted with the DELETE (F5) command.

```
AMS [option]
```

Invokes the AMS (Access Method Services) utility. This utility allows you to create, load, and maintain VSAM files. Help is provided once AMS is invoked.

```
ATTRIB filename  
AT
```

Displays the attributes of the file specified.

```
BROWSE [filename] [LRECL(n)] [UIO] [MAX(n)]  
B [n]
```

Browses a file in Read Only (RO) mode.

```
/CANCEL [ALL] <B R>  
/CA
```

Terminates whatever activity is in progress. ALL is needed to terminate always-programs.

```
CD dirname  
CD..  
CD\
```

This command changes directories for tree-structured file system.

```
CI
```

This command invokes the Class Information facility for students. This menu program works in conjunction with CM (Course Management facility) for instructors. Help is available once the program is invoked.

```
CICS
```

Invokes the MUSIC interface for the optional IBM CICS product.

```
CM
```

Invokes the Instructor's Course Management Facility. Help is available once the facility is invoked.

```
COBTEST
```

Invokes the interactive debugger for the optional IBM VS COBOL compiler.

```
COMPARE name1 name2 [n-m][ENDCHK][TBL(k)]  
COMP [m ]
```

The COMP command compares the lines in two sequential files and reports lines which are different and

lines which are in one file but not the other.

name1 name of the first file.

name2 name of the second file.

n-m starting (n) and ending (m) column numbers of the area to be compared in each record. The default is n = 1 and m = the larger of the two record lengths, to a maximum of 512.

m When only one column number is specified, it is the ending column, starting column is assumed to be 1.

ENDCHK (Optional) causes object module END records to be compared like any other records.

TBL(k) k is a number from 2 to 120. This option specifies how many records to search ahead when unequal records are found.

```
/COMPRESS [ON ]  
/COM        [OFF]
```

<B C>

Compresses multiple blanks to one blank and deletes leading blanks for subsequent output. Default is ON.

```
CONF confname
```

Invokes the MUSIC conference facility for discussing topics of interest. Type HELP CONF for more information.

```
COPY oldfile newfile
```

Creates a copy of the file *oldfile* into a new file as specified by *newfile*.

```
DEBUG [parameters]
```

Invokes the Debug utility for debugging programs at the machine level.

```
DECRYPT infile [outfile]
```

Invokes the DECRYPT program for restoring files that have been encrypted. See ENCRYPT.

`infile` is the name of the file to be decrypted.

`outfile` is the name of the output file. If *outfile* is omitted, then *infile* is replaced (with your permission).

```
/DEFINE PFn [string ]  
/DEF     PFn [=string]
```

Defines function keys to represent *string*. *string* is executed when the function key is pressed. When "=" precedes *string*, the string is displayed in the input area to allow for modification.

```
DELETE
```

Deletes an extra MUSIC session that was created with a previous ADD command.

```
DIR [dirname]
```

Lists the files in the current directory or in *dirname*.

```
/DISCON  
/DISC                                     <B R>
```

Disconnects your session while your program continues to run.

```
DISPLAY [filename] [x      ] [y      ]  
D              [LAST  ] [LAST  ]  
                [LAST-n] [LAST-n]
```

Lists the file called *filename* (default is /INPUT file) with line numbers from lines *x* to *y*. LAST means the last line of the file. If *x* and *y* are omitted, the entire file is displayed. If you do not want line numbers, use

the LIST command.

```
DW370
```

Invokes the optional IBM DisplayWrite/370 word processing facility.

```
EDIT [name] [NEW] [LRECL(n)] [fm] [RO] [NOLOG] [UIO] [MAX(n)]  
E          [OLD ][n          ]
```

Invokes the Editor. TEXT UC is default (lower case characters are converted to upper case). See the Editor Commands section.

name is a file to be edited.

NEW or OLD If NEW is specified, the Editor goes into input mode of a new file. If OLD is specified, the Editor goes into edit mode. Default is OLD.

n is the record length to be used during edit, default is 80. Maximum is 512.

fm specifies the record format of the file. *fm* can be either F (Fixed format), FC (Fixed Compressed), V (Variable length), or VC (Variable Compressed). Default is FC.

RO causes the Editor to go into Read Only mode.

NOLOG suppresses the Editor restart feature by not creating a log file.

UIO causes the Editor to read the file by 512-byte blocks using MFIO UIO requests.

MAX(n) specifies the maximum number of records the Editor is to read from the file being edited.

```
ENCRYPT infile [outfile]
```

Invokes the ENCRYPT program for coding files to provide extra security. This program randomly exchanges characters resulting in an unintelligible document. You are prompted for a password which will be needed later to restore your file. See DECRYPT.

infile is the name of the file to be encrypted.

outfile is the name of the output file. If *outfile* is omitted, then *infile* is replaced (with your permission).

```
EXECUTE filename [parm]  
EX  
  
filename [parm]
```


Executes the program contained in the file called *filename*, where *parm* is a parameter to be passed on to the program. EXECUTE may be omitted as in the last form.

```
FINDTEXT 'text' [FILE(spec)] [options]  
FT
```

Searches through all or some of your files for a text string. Enter "HELP FINDTEXT" (or press F1 after entering the command) for a description of all options.

```
FINGER address
```

Sends a one-line query to a remote Internet site.

```
FLIB [filespec]
```

Displays a listing of the files in your library. If you wish to see only certain files, specify a file specification using the "*" as a wild character.

```
FSI [option]
```

Invokes the Full Screen Interface (FSI) program. FSI allows you to access various components of the MUSIC system through a series of selection menus. Help is provided once FSI is invoked.

```
FTP [destination]
```

Invokes the File Transfer Protocol program for transferring files to/from remote computers connected to the Internet.

```
GDDM
```

Invokes optional IBM GDDM Graphics utilities.

```
GETMINFO
```

Invokes the GETMINFO utility program for listing information about your incoming mail items. Type "HELP GETMINFO" for more information.

```
GETMAIL
```

Invokes the GETMAIL utility program for reading incoming mail and storing it in a file. Type "HELP GETMAIL" for more information.

```
HELP [topic]
```

Invokes the HELP facility which provides information about the MUSIC system. A wide range of topics are covered including: MUSIC commands, subroutines, utilities, etc.

```
IBMBASIC [filename]
```

Invokes IBM BASIC. Type "QUIT" to leave the IBM BASIC environment.

```
/ID [tn,] userid [,ident] [;trmcls]
```

Used for signing onto the MUSIC system. Usual form is "/ID userid;trmcls". *userid* is the userid (sign-on code) authorized for MUSIC. *tn* is the terminal (workstation) identification number. *ident* is an 8 character

identification field. *trmcIs* informs the system of the terminal class. The following terminals are currently supported:

<u>trmcIs</u>	<u>Terminal Model</u>
3270	3270 family of terminals
3270A	3277 with DAF/APL
3270B	3270 APL/TEXT feature
ASCII	ASCII terminals
3101	3101 terminal or PC running 3101 emulator
PCWS	PC running MUSIC's PC Workstation Software
IBMPC	PC running Async Communications Software
2741	2741 family of terminals

IDP

Invokes the Information Display Program for creating help facilities and bulletin boards.

LANG [language]

Specifies which national language you wish for MUSIC messages.

```
LIBRARY searchspec [FULL][TAG][VSAM][PACK][NOSORT][SAVE(name)]
LIB                [F ][T ][V ][P ][S(name) ]
                  [COM][X][SPACE(n)][FNAME][SORT(type)][APPEND]
                  [SO(type) ][AP ]
```

Lists the file names in your Save Library.

<i>srchsp</i>	Specifies which file names are to be searched for in the Save Library index. File names matching the pattern in <i>srchsp</i> are listed. <i>srchsp</i> may contain one or more wild characters ("?" and "*") in the pattern. A "?" matches single characters in the corresponding position of a file name (i.e. "LIBRARY Z.?" lists files that have 4 character names beginning with "Z."). A "*" matches any group of 0 or more characters (i.e. "LIBRARY Z.*" lists all file names that begin with "Z."). If <i>srchsp</i> is not specified, all file names belonging to you are listed. <i>srchsp</i> must be specified if other parameters are needed. To display all your files with the FULL parameter, enter "LIBRARY * F".
FULL	displays corresponding information for each file.
TAG	same as FULL, but also displays tag information on each file. See the TAG command.
VSAM	lists only VSAM files.
PACK	displays several file names per line.

SAVE(fn)	indicates that the output from the LIBRARY command is to be saved in a file called <i>fn</i> . If <i>fn</i> is omitted, the output is saved in the file @LIB.
NOSORT	causes the file names to be displayed in unsorted order.
COM	lists only files in the common index.
X	similar to FULL, except output includes time of last open for write, userid of last writer, and number of records.
SORT(type)	specifies how the listing is to be sorted. Type is NAME (sort by file name), SIZE (sort by file size in K), RDATE (sort by date last read), WDATE (sort by date last written), or UDATE (sort by reference date, which is the higher of the read and write dates). Abbreviations are N, S, R, W, U. The default is SORT(NAME). A minus sign (-) can be placed before the type to sort in descending order. If the SORT option specifies a type other than NAME, and neither X nor FULL is used, then the X option is automatically used. Examples: SORT(WDATE), SORT(-S).
SPACE(n)	specifies the initial space (in K) to be allocated for the new file specified by the SAVE parameter. The default is SPACE(32), meaning 32K.
APPEND	specifies that the output should be written to the end of the file given by the SAVE parameter, after any existing data. This is useful for accumulating the output of several LIB or DIR commands into a single file. If the output file does not already exist, a new one is created. In all cases when the APPEND option is specified, unused space in the output file is NOT freed at the end of the command; this is in anticipation of further appends to the file. Without APPEND, unused space is freed.
FNAME	Causes full file names (including userid and directory path) to be displayed.

```
LIST  [filename] [x      ] [y      ]
L           [LAST  ] [LAST  ]
           [LAST-n] [LAST-n]
```

Same as DISPLAY, without line numbers.

```
MAIL  [parameters]
```

Invokes the MAIL facility for sending electronic mail to other users. Help is provided once the facility is invoked.

```
MAN
```

Invokes word search facility for displaying MUSIC manuals.

```
MD
```

Makes a new directory for tree-structured file system.

```
MEET
```

Invokes the MEET program for scheduling meetings. This is also an option on the TODO menu.

```
MESSAGES [ ON ]  
M         [ OFF ]
```

Controls whether you are receiving messages or not. For example, notification that mail has arrived.

```
MNSORT
```

Invokes the MNSORT utility for sorting data on disk or tape.

```
MS
```

Displays information about the terminal sessions you are currently signed onto.

```
NET
```

Invokes the Network Directory for a list of available Internet sites that allow anonymous access.

NEWPW

Changes your current sign-on password for your userid.

NEWS
N

Lists current news items about MUSIC.

NEXT

Gives you the next session in a chain of extra sessions.

OFF [HOLD]

Used to sign off the MUSIC system. If HOLD is specified, a /ID command may be entered afterwards.

OUTPUT

Allows you to list, edit, purge, print, and save output sent back to MUSIC from batch jobs. Help is provided once OUTPUT is invoked.

PCEXEC command [-Hold] [-Direct]
 [-H] [-D]

Using the PCWS program, executes the specified DOS command or PC program as though it had been entered at the DOS prompt. For more information type "HELP PCEXEC".

```
PHONE
```

Invokes the PHONEX program for logging phone calls. This is also an item on the TODO menu.

```
PING sitename [options]
```

Measures the round-trip-times to Internet sites.

```
PIPE function
```

Invokes a device-independent pipeline interface. For more information type "HELP PIPE".

```
POLYSOLVE
```

Invokes the POLYSOLVE program for solving calculations and equations.

```
PQ
```

Finds out what is queued to print on various printers.

```
PREVIOUS
```

Gives you the previous session in a chain of extra sessions.

```
PRINT filename [ROUTE(location)] [FORMS(xxxxx)] [COPIES(n)] [CC  ]
                                                    [NOCC]
```

Prints the file on the printer at the location specified.

fn is the name of your file.

Route where *loc* is a valid printer location for your installation. If ROUTE is not specified the default location is used.

Forms where *xxxxx* is a valid forms code for your installation.

Copies where *n* indicates the number of copies.

CC specifies that the file has carriage control characters in column 1. By default (NOCC) a page skip is issued every 60 lines.

```
PROFILE [parameters]
```

Invokes the PROFILE program. This program is used to change or display things like your sign-on password, autoprog, batch password, and funds available. Help is provided once the program is invoked.

```
PROG
```

Invokes the programmers menu facility.

```
PURGE filespec [filespec]... [-NOPROMPT][-NOLIST]
PUR      [-NOP      ][-NOL      ]
```

Permanently removes file(s) from your library.

filespec where each *filespec* is one of 3 file specification types:

1. name of a file.
2. when preceded with a "<", indicates that the file contains a list of file names to be purged. For example, "PURGE <fileabc".
3. a file name pattern to be matched. All files that match the pattern are purged. See the LIBRARY command for details on pattern.

-NOPrompt purges files without prompting.

-NOList suppresses "file purged" messages.

```
RD
```

Removes a directory for tree-structured file system.

```
RECORD  [ ON  ]
REC      [ OFF]
          [ NEW]                                <C B>
```

Turns recording "ON". OFF stops recording. NEW turns on recording and deletes the previous recording file (/REC).

```
RENAME oldname newname
REN
```

Renames a file from *oldname* to *newname*.

```
RN
```

Invokes the News Reader to view Usenet articles from around the world. Your site must be connected to the Internet.

```
ROUTE [destination]
```

Displays or changes the default route destination for the current MUSIC session.

```
SCHED
```

Invokes the SCHED program for scheduling personal calendars. This is also an item on the TODO menu.

```
SENDFILE name userid node
```

Sends a copy of a file of any record length to another MUSIC or CMS user. *userid* is either a MUSIC userid or a 1-8 character VM userid. *node* is the system name where *userid* is located (this is not a mail domain name, but the true system node name).

```
SENDMAIL TO(user1) SUBJ(subject) FILE(filename)
```

This command invokes the SENDMAIL utility program which is the fast-track method to send a piece of mail. SENDMAIL requires that the text of your message already exist in a file. For more information type "HELP SENDMAIL".

```
SHOWPFK
```

Lists the program function key definitions for command mode.

```
/SKIP [n ]  
/SK   [ALL] <B>
```

Used during break mode to skip *n* lines or ALL output lines, the default is 1.

```

SORT filem1 [filem2][ -REPLACE][ -NOMSG][n-m][ -A][ -CH][ -DELDUPS]          <C
                                [ -R          ][ -NOM   ][n   ][ -D][ -BI
                                                [ -FI ]
                                                [ -FL ]
                                                [ -ZD ]
                                                [ -PD ]
                                                [ -DA ]
                                                [ -CI ]

```

Sorts records in *file1* on a single control field within each record, and saves sorted records in *file2*, or replaces *file1* if *file2* is omitted.

-Replace replaces *file2* if it already exists.
 -NOMsg suppresses the sort messages.
 m-n specifies the starting column *m* and ending column *n* of the sort control fields. If *n* is omitted, the sort control fields extend from *m* to the end of the record. *m* can have a value from 1 to 4096. Only the first 256 characters of *m-n* are compared.
 -A implies an ascending (increasing) order sort on the control fields.
 -D is a descending (decreasing) order sort.
 -xx specifies the type of the sort control field. *xx* can be one of the following:
 -CH Character (default)
 -BI Binary (same as -CH)
 -FI Fixed point
 -FL Normalized fixed point
 -PD Packed decimal
 -ZD Zoned decimal
 -DA 7-character date (i.e. 01JUN89)
 -CI case ignore
 -DELDUPS deletes output records that have the same sort field as the previous record.

```

/STATUS
/ST                                         <B C>

```

Gives information about the user's terminal and status of the system.

```

SUBMIT file1[,file2....] [ROUTE(loc)] [TO(system)]
SUB
    [Code(code)] [Sub(sub)] [Time(n)] [PAges(n)]

    [Forms(ffff)] [COpies(n)] [PW(pw)]

```

Submits the file(s) to MUSIC batch or some other system depending on the contents of the first line of the first file (see /INFO). Your job output is routed to the location specified on the ROUTE parameter. Files

must make up a complete job in the order they are specified. If a password is not included in the file, you will be prompted for the password of the userid found in the first /INFO statement. See the /INFO statement for a description of the parameters.

```
SUMMARY filename  
SUM
```

Displays a brief summary of a file.

```
TAG filename [tag info]
```

Assigns the text of *tag info* (64 characters) as a tag for *filename*. When *tag info* is not specified, the current tag text is displayed for the file.

```
TEDIT [name] [NEW] [LRECL(n)] [fmt] [RO] [NOLOG] [UIO] [MAX(n)]  
TED [n]
```

Invokes the Editor with TEXT SCRIPT as default. (Lower case characters are preserved.) See EDIT for details on options.

```
TELL userid [message-text]  
TELL userid@systemid [message-text]
```

Sends a single line message to another user on your system. Intersystem tell messages are allowed if your site is connected to BITNET.

```
TELNET [destination]
```

Allows you to log on to other computers connected to the Internet.

```
/TIME  
/T  
?
```


Displays the time of day and the Service Units used for the current job running up to that point.

```
TODO [option]
```

Invokes the TODO (Time, Office, and Documentation Organizer) facility. This facility provides menu items for such things as schedules, mail, spell check, etc. Help is provided once TODO is invoked.

```
TREE
```

Provides a graphical display of your directories.

```
TUTORIALS  
TUT
```

Invokes tutorials for learning programming languages.

```
/USERS  
/U
```

<B C>

Gives the number of users presently signed on to MUSIC.

```
VER
```

Shows the current version of MUSIC.

```
VIEW filename  
V
```

Invokes the VIEW program for full-screen viewing of files of any record length, type, or size.

```
VM
```

Creates a VM session that allows you to connect to CMS, TSO, VSE or another MUSIC system.

```
WEB [url address]
```

invokes the WEB line-mode browser that connects to Internet WEB sites. For example:

```
WEB http://musicm.mcgill.ca
```

```
/WINDOW [m,n] [ ,OFF ]  
/WI
```

Displays subsequent lines from columns *m* to *n*. If *m,n* is omitted, the window defaults to the values last given. OFF resets window from 1 to the end of the output line. The window is automatically reset after a *Go.

XTPC

Using the PCWS program, transfers files to the PC from MUSIC.

XTMUS

Using the PCWS program, transfers files to MUSIC from the PC.

Glossary

Glossary

action keys. These keys are used to signal the computer to start processing. The action keys most often used are the ENTER and the function keys. The other action keys are: CLEAR, PA1, PA2, and TEST REQ.

ASCII terminal. Stands for American National Standard Code for Information Interchange. MUSIC is used in line mode for ASCII terminals, unless the terminal has a video display and passes through a protocol converter.

BITNET. "Because it's Time Network" links many computers together that run the NJE protocol. MUSIC makes use of BITNET's automatic system for maintaining discussion lists.

character string. A character string is a consecutive set of letters, numbers, symbols, or blank spaces.

code. The word code can have many meanings. For example, programming code or access code. The word code is sometimes used to refer to a userid. Sign-on code and userid mean the same thing on MUSIC.

command. A command is an instruction you give to MUSIC or a MUSIC program to have it perform a task for you.

command area. Most programs have a command field at the top of the screen. In this area, you can type commands for the current program or for MUSIC.

command language. MUSIC command language consists of a variety of commands that perform a function or invoke a program. MUSIC commands can be entered in *Go mode or in the command area of a program screen.

compiler. A compiler translates a program into an object program or into machine language.

conferencing. Electronic discussions on a particular topic is available through the CONF program on MUSIC.

current line. It is the line that is currently being modified during an edit session. On some workstations, the current line is highlighted by being brighter or a different color.

cursor. The cursor is a moveable mark that indicates where you are on the screen. The character the cursor is on will be the one that you can change by typing over it. The cursor is moved around on the screen with the TAB key or with one of the directional arrow keys.

CWIS. "Campus-Wide Information System" is an electronic bulletin board dealing with campus activities.

/DATA statement. A job control statement indicating the end of the compiler input and the start of data input.

default. A default is a value or condition that has been preset by MUSIC. For instance, the function keys have been assigned default definitions by MUSIC.

discussion list. BITNET provides a forum for joining electronic discussion lists through e-mail.

disk storage. A magnetic disk unit for online storage of files.

distribution list. The distribution list is the electronic mail addresses for all the people receiving the same mail item.

download. Transferring data from MUSIC to a personal computer.

edit. You can edit a file by: correcting mistakes; adding or deleting information; and moving sections of the file to another part of the file. Files are edited using Editor commands, function keys, and local editing keys.

Editor. The name of the program on MUSIC that is used to create and modify files.

Editor command. An Editor command is, typically, a one-word instruction that is used to modify files. It can usually be abbreviated. Editor commands are typed into the command area of the screen.

execute. Files containing programs are "executed" to produce output. SCRIPT files are executed to produce final documents.

facilities. The word facilities and programs are used interchangeably. A facility is usually a large program that accesses other programs. For example, FSI.

file. A file on MUSIC can contain your source program, data, SCRIPT document, etc.. A collection of files is built up under a userid, and is called a user's *library*.

FILE. File is an Editor Command to record any changes you have made to a file and end the edit session. (See also SAVE.)

file attributes. Each file on MUSIC has different characteristics or attributes. For example, the PRIV attribute means your file is private and only you have access; the SHR attribute means files can be shared. Also, the size, record length, read-write access, etc. are all attributes.

file management. A program to help you maintain your files. With FSI, you can access, create, edit, copy, and rename your library of files.

file selection list. When working with your files (file management) you can select a certain group of files to work with. These files may have a common prefix or suffix.

file specification (filespec). With FSI, you need to specify which files you want to work with by filling the 'filespec' field on certain screens.

FSI. Stands for Full Screen Interface. It is a facility that provides the user with menu screens for choosing different programs on MUSIC.

FTP. "File Transfer Protocol" allows users to transfer files from one Internet site to another.

full screen mode. The entire screen is displayed and transmitted at once. This mode is used for filling in the blank input fields on the screen. The opposite of full screen mode is line mode - input is entered one line at a time, rather than a screen at a time.

function keys They are used by a variety of programs to perform predetermined functions. They provide the convenience of one-key-stroke entry of common or complicated command strings.

The Editor is a program that makes extensive use of function keys. Each function key has been pre-defined to perform specific Editor commands. Function keys are action keys, because they signal the computer to start processing something.

global change. Using the Editor you can use the CHANGE command to change one character string to another throughout the whole file.

***Go.** After you sign on to MUSIC, you are in *Go mode (also called MUSIC command mode). (Many new users go directly to the FSI, bypassing *Go mode.) This working environment is where you start after signing on, and to where you return after using a MUSIC program, in order to give MUSIC its next instruction.

HTML. Hypertext Markup Language. HTML is used to format, to provide graphics in a document, and to provide links to other documents on the Web.

input field (area). Many programs display fill-in-the-blank areas on the screen for you to enter your data. These areas are called input fields.

insert mode. When you use the local insert key, the workstation is in insert mode. You can insert characters in the middle of lines.

interactive. An interactive operating system is conversational. It accepts input from the user and responds directly to the workstation.

interface. A program that links the user to another program. Often this is a full screen panel asking you to fill in the appropriate input fields for the target program.

Internet. The Internet is a network of heterogeneous sites world-wide. If your site belongs to the Internet then you can communicate with different computers from around the world.

job control language (JCL). Identifies and describes a batch job to the MUSIC operating system.

/JOB statement. A job control statement which specifies run-time options for the Loader.

library. The collection of files for each userid is called a library. It is similar to the term directory.

line mode. Opposite of full screen mode. Usually needed for terminals that do not have a video display.

line pointer. Line pointer is the name given to the arrow that points at the current line in the Editor.

local editing keys. These are the keys that do not transmit information to the computer. For example, the insert, delete, and arrow keys.

magnetic tape. A storage medium for large amounts of data. Reels of magnetic tape are stored off line for archival purposes or transport.

MAIL. On MUSIC, the program for sending electronic mail is called MAIL.

mail directory. The DIRECT program for mail allows you to create nicknames to represent electronic mail addresses.

mail profile. The MPROF program for mail allows you to change default parameters for MAIL.

MCS. MUSIC/SP Client/Server (MCS) uses a graphical (Windows) interface to do common tasks on your PC.

menu. They are provided with many full screen programs on MUSIC. Selections for different programs are listed on the screen for you to choose from. FSI is a menu-driven program.

mode. A state in which MUSIC is ready to accept and process information. There are several modes, for example: *Go - MUSIC command mode; Command mode of the Editor; and Input mode of the Editor.

It is also a mode of operation such as insert mode, replace mode, or full screen mode.

multi-sessions. You can have more than one MUSIC session per workstation. MUSIC programs make use

of this feature to call in other programs.

MUSIC/SP. Multi-User System for Interactive Computing/System Product. MUSIC/SP, or MUSIC for short, is an operating system. Operating systems run and manage the computer and other hardware, like the disk and tape drives, and the workstations. An interactive computer system, like MUSIC, allows many people to use the computer concurrently to perform a variety of tasks. It will seem to each person, however, that they are the only one using the system.

NewsReader. The RN command invokes the newsreader for reading news from a variety of news groups on Usenet.

offline storage. Data is kept separate from the computer on magnetic tape or cartridges. Data that is stored offline needs to be read into the computer and put online before it can be processed.

online storage. Data is kept on magnetic disk attached to the computer. It can be accessed at anytime.

operating system. Acts as a middleman between you and the computer. It allocates the computer's resources between users.

/OPT statement. A job control statement which specifies compiler options.

/PARM statement. A job control statement which specifies run-time options for the compiled program.

password. Each userid has a password associated with it. The maximum length allowed for a password is eight characters. Passwords protect the privacy of the userid. You can change your password using the PROFILE facility. Do this regularly to maintain security. (See *Chapter 1. Introduction* for a discussion on changing passwords.)

PCWS. Personal Computer WorkStation program. A personal computer can use MUSIC without a protocol converter by using this software for the PC.

processor. A program that interprets and executes computer languages.

program function keys (PF keys). See function keys.

protocol converter. For MUSIC, it is a device to allow ASCII workstations to act as 3270-type terminals.

public library. MUSIC stores all of its public programs in the public library. Everyone can access these files by name (most are read or execute only files). If you have a file by the same name as a public file then you will always get your file.

record length. Is the number of characters per line in a MUSIC file. The default length is 80 characters

across. The Editor can handle line lengths of up to 512.

SAVE. Save is an Editor Command. It will record any changes you have made while editing a file, and continue the edit session. (See: FILE.)

SCRIPT. Is the name of the word processing program on MUSIC. Control words imbedded in your text control the formatting of the documents.

software. All the programs on the computer are called software. All the computer equipment is called hardware.

SPELL. Is the name of the program on MUSIC that is used for checking the spelling in your files.

TCP/IP. "Transmission Control Protocol/ Internet Protocol" is the software needed to connect to the Internet.

terminal. A device that transmits and receives data to a computer. It usually has a keyboard and a video display. It may have a direct connection to the computer, or pass through a protocol converter, or use telephone lines (modem).

TODO. Stands for Time, Office, and Documentation Organizer. It is a menu program for office applications.

upload. Transferring data from a personal computer to MUSIC.

userid. Is a sign-on code that identifies you to MUSIC.

utilities. Is another term for programs. Often this class of programs is used for maintenance of files.

Web Browser. Your PC needs a Browser (or Web client) to access the Web (connect to Web servers). Some examples of Web browsers include: Mosaic, Netscape, and Explorer.

Web Server. is a place to store Web documents (MUSIC's Web server is described below under the topic "HTTPD Server". Web servers usually include an entry point (Home Page) into the Web.

working environment. When you sign on to MUSIC you have a choice of using *Go mode or a menu facility as your "base of operations". After branching out to different programs on MUSIC, this is the place where you return to.

workstation. A device used to communicate with the mainframe computer. It can be either a terminal or a personal computer.

WWW. World-Wide Web is an information service on the Internet that is based on accessing hypertext (HTML) documents. It is similar to Gopher - it's menu-based and helps you access different resources. However, as a hypertext service, it allows cross-references (links), graphics, and sound.

3270 emulation. Personal computers or non-3270 terminals can use a program or a protocol converter to operate as if they were IBM 3270 terminals.

3270-type terminal. Is a terminal that has 3270 architecture or connects to the computer with a protocol converter to emulate a 3270 terminal. An IBM terminal of the 3270 series is a real 3270.

Index

*

*Go, 150
*Go Mode, 15

A

ACCESS - MUSIC Command, 125
Action Keys, 10, 148
ADD - MUSIC Command, 126
Adding Blank Spaces, 30
Adding Lines, 45
AMS - MUSIC Command, 126
Answer for Mail, 90, 92
Applications
 Developing, 4
 Office, 4
Arrow Keys, 30
ASCII, 7
ASCII Terminal, 148
ATTN Message, 7
ATTRIB - MUSIC Command, 126

B

Backspace Key, 30
Batch
 Printers, 3
Batch Jobs, 115
BITNET Definition, 148
BOTTOM - Editor Command, 38, 45
BROWSE - MUSIC Command, 126
Browse Option Code - Library, 77
Browsing Files, 79
Bulletin Boards, 6, 133

C

CANCEL - MUSIC Command, 7, 126
CD - MUSIC Command, 74, 127
CHANGE - Editor Command, 38
Changing Text, 34, 38
Changing Your Password, 18, 21
Character Strings, 148
Check Mail, 91

CI - MUSIC Command, 127
CICS - MUSIC Command, 127
Client/Server, 106
Client/Server - MCS, 151
Client/Server Applications, 4
CM, 5, 117
CM - MUSIC Command, 127
Cmd/Opt Field, 79
COBTEST - MUSIC Command, 127
Codes, (see Userids)
Command Area, 32, 87
 Editor', 36
Command Definition, 148
Command Key, 36
Command Mode of MUSIC, 15
Command Mode of the Editor, 25
Commands
 For Editor, 36
 Mail Facility, 89
 MUSIC, 124
COMPARE - MUSIC Command, 127
Compilers/Processors, 62
 Output, 65
 Select Codes, 64
COMPRESS - MUSIC Command, 128
Concepts
 Editor, 24
 File, 24
 MUSIC, 2
CONF - MUSIC Command, 128
Conferencing, 6, 105
Conferencing Definition, 148
Connecting to MUSIC, 14
COPY - MUSIC Command, 128
Copy for Mail, 90
Copy Option Code - Library, 77
COPY. - Editor Command, 40
Copying Files, 80
Copying Text, 40
Counts for Mail, 88
Course Information, 5
Course Management Facility, 5, 117
Creating a New File, 26
Creating a Source File, 65
Creating Mail, 94
Current Line, 148
Cursor, 30, 148
Cursor, Moving, 8, 34
CWIS Definition, 149

D

- DEBUG - MUSIC Command, 128
- DECRYPT - MUSIC Command, 128
- Default
 - Function Keys, 59
- DEFINE - MUSIC Command, 129
- Definition of MUSIC, 2
- DELETE - MUSIC Command, 129
- Delete for Mail, 90
- DELETE Key, 8-9, 35
- Delete Option Code - Library, 77
- DELETE. - Editor Command, 40
- Deleting
 - Characters, 35, 49
 - Files, 42, 82
 - Lines, 35, 40, 49, 53
- DIR - MUSIC Command, 129
- Directories, 74
- Directory, (see also Library)
- Directory of Mail, 100
- DISCON - MUSIC Command, 129
- Disconnecting from MUSIC, 20
- Discussion Lists, 105
- Disk Storage, 3
- DISPLAY - FSI Command (Files), 78
- DISPLAY - MUSIC Command, 129
- DisplayWrite, 7
- Distribution List, 90, 101-102
- DUP - Editor Command, 42
- Duplicating Text, 42
- DW370 - MUSIC Command, 130

E

- Edit, 149
- EDIT - MUSIC Command, 130
- Edit New Screen, 27
- Edit Option Code - Library, 77
- Edit Screen, 44
- Editing
 - an Existing File, 44
 - Functions, 34
 - Key Definitions, 9
- Editor, 11
 - BOTTOM Command, 38, 45
 - CHANGE Command, 38
 - Command Mode, 25
 - Commands, 36
 - Concepts, 24
 - COPY. Command, 40

- Definition, 6, 149
- DELETE. Command, 40
- DUP Command, 42
- Editing Files, 34
- Ending, 26
- Entering Commands, 32
- EXECUTE Command, 41
- FILE & QUIT Commands, 36
- FILE Command, 41
- FIND Command, 38
- Function Keys, 30, 58
- Getting Help, 36
- Help, 18
- HELP Command, 41
- Important Keys, 58
- Input Mode, 25, 29
- Input of Data, 30, 47
- LOCATE Command, 37
- MARK Command, 39
- MERGE Command, 39
- Modes, 25
- MOVE. Command, 40
- NAME Command, 42
- Prefix Area, 42
- SAVE Command, 41
- Screen Format, 29
- Starting, 26
- STORE Command, 40
- TOP Command, 38
- UNDELETE Command, 43
- Electronic Mail, 4
- Electronic Office, 4
- ENCRYPT - MUSIC Command, 130
- End of File, 32
- Ending a Line, 25
- Ending the Editor, 26, 31, 41, 56
- ENTER Key, 8, 30
- ERASE EOF Key, 9
- Error Messages
 - X Screen Message, 7
- EXECUTE - Editor Command, 41
- EXECUTE - MUSIC Command, 130
- Execute Option Code - Library, 77
- Executing a Program, 68
- Exercise
 - Changing Your Password, 18
 - Creating a Fortran Program, 65
 - Creating a New File, 26
 - Sending Mail, 94
- Expiring Mail, 94
- External Mail, 105

F

FILE

Editor Command, 36, 41

File Information, 78

File Management

Commands, 78

Function Keys, 78

File Specification, 79

File Storage, (see Library)

Files

Attributes, 74

Browsing, 79

Concept, 24

Copying and Renaming, 80

Definition, 6, 149

Flat System, 74

Listing, 75

Managing Groups, 75

Merging Together, 39

Names, 24

Program Names, 64

Source, 65

Storing, 74

Tree-Structured, 74

Files, Submit & Print, 112

FIND - Editor Command, 38

FIND - FSI Command (Files), 78

Finding Text, 37

FINDTEXT - MUSIC Command, 131

Finger, 120

FINGER - MUSIC Command, 131

Flat File System, 74

FLIB - MUSIC Command

ix

MUSIC Commands, FLIB

Fortran Compiler, 63

Fortran Programming, 65

Forward Mail, 90, 92, 104

FSI, 5, 16

Additional Features, 110

Language Interfaces, 63

Signing Off, 20

FSI - MUSIC Command, 131

FSI Commands

File Management, 78

FTP, 106

FTP - MUSIC Command, 131

Full Screen Interface, (see FSI)

Function Keys, 8

Definition, 150

Editor, 30, 58-59

File Management, 78

for Mail, 88

for Mail Profile, 104

G

GDDM - MUSIC Command, 132

Get for Mail, 90

GETMAIL - MUSIC Command, 132

GETMINFO - MUSIC Command, 132

Getting Help, 17

global changes, 150

Global Changes, Editor, 38

Go Mode, 15

Gopher, 106

Graphics, 4

H

Hardware, 3

Help

For FSI, 17

For MUSIC, 18

For the Editor, 18, 36

Highlighted Topics, 17

HELP - Editor Command, 41

HELP - MUSIC Command, 132

Help Facilities, 117

Highlighted Topic Names, 17

HTML - Definition, 150

Hypertext Markup Language, 150

I

IBMBASIC - MUSIC Command, 132

ID, 15, (see Userids)

ID - MUSIC Command, 132

IDP - MUSIC Command, 133

Incoming Mail, 89

Select Codes, 90

Information, Online, 6

Initial Command for Mail, 104

input field, 150

INPUT INHIBITED Message, 7

Input Key, 36

Input Mode of the Editor, 25, 29

Input Mode, Screen Display, 29

Input of Data, 30, 47

Ins Line Key, 36

INSERT Key, 8-9, 35

Insert Mode, 56

Inserting Characters, 35, 56

Inserting Lines, 35, 45, 54

Instructor's CM Facility, 5

Interactive System, 2

Interfaces for Programming, 62
Internet Access, 4, 106
INVIS - PROFILE, 120

J

JCL, 64
Job Control File, 70
Job Control Statements, 64

K

Keyboard is Locked, 30
Keys
 Action, 10
 Definitions, 7
 Editor, 58
 Editor Function, 58
 Function, 8
 INSERT and DELETE, 35
 Local Editing, 9
 PA1, 89, 105
 RESET, 7
 TAB, 30
Keys, Important, 118

L

LANG - MUSIC Command, 133
Language - PROFILE, 120
Languages, 4
 Compilers, 62
 Interfaces, 63
 Programming, 62
LAST - FSI Command (Files), 78
LIB - FSI Command (Files), 78
Library, 6, 151
 Option Codes, 77
LIBRARY - MUSIC Command, 133
Library Management Screen, 76
Line Length, 29
line mode, 151
Line Pointer, 32, 151
LIST - MUSIC Command, 134
List of Names for Mail, 101
Listd Option for Mail, 90
Listdist Option for Mail, 94
Listing Files, 75
Local Editing Keys, 9, 8, 35
LOCATE

Editor Command, 37
FSI Command (Files), 78
Log and Delete Mail, 91
Logical Record Length, 29
LRECL, 29

M

MAIL - MUSIC Command, 134
Mail Directory, 100
Mail Facility, 4, 86
 Answer, 90, 92
 Commands, 89
 Copy, 90
 Counts, 88
 Creating and Sending Mail, 94
 Delete, 90
 Expiring Mail, 94
 External Mail, 105
 Forward, 90, 92
 Function Keys, 88
 Get Option, 90
 How to Use, 86
 Incoming Mail, 89
 Listd Option, 90
 Log and Delete, 91
 Main Menu, 87
 Nicknames, 100
 Outgoing Mail, 92
 Print, 90
 Refusing Mail, 90
 Releasing Mail, 94
 ReplyFrm, 90
 Select Codes, 87
 Transferring Mail, 91
 Undeleting Mail, 91
 Viewing Mail, 91
 Zoom, 91
Mail For Field, 87
Mail Profile, 102
 Function Keys, 104
MAN - MUSIC Command, 134
Managing File Groups, 75
Manuals, v
MARK - Editor Command, 39
Marking Lines, 39, 50
MCS - MUSIC/SP Client/Server, 4, 106, 151
MD - MUSIC Command, 74, 135
MEET - MUSIC Command, 135
Menu Facilities, 5
Menu for Teachers, 117
MERGE - Editor Command, 39
Messages
 Screen, 7, 29

MESSAGES - MUSIC Command, 135

MNSORT - MUSIC Command, 135

Mode

Input, 29

Mode Definition, 151

Modes of the Editor, 25

More... Message, 7

MOVE. - Editor Command, 40

Moving

In the File, 37

Lines, 40, 51

The Cursor, 34

MS - MUSIC Command, 135

Multi-Session, 8

MUSIC

Command Mode, 15

Commands, 124

Concepts, 2

Connecting to, 14

Definition, 2

General Help Facility, 18

How is it Used?, 3

Publications, v

MUSIC Commands

ACCESS, 125

ADD, 126

AMS, 126

ATTRIB, 126

BROWSE, 126

CANCEL, 126

CD, 127

CI, 127

CICS, 127

CM, 127

COBTEST, 127

COMPARE, 127

COMPRESS, 128

CONF, 128

COPY, 128

DEBUG, 128

DECRYPT, 128

DEFINE, 129

DELETE, 129

DIR, 129

DISCON, 129

DISPLAY, 129

DW370, 130

EDIT, 130

ENCRYPT, 130

EXECUTE, 130

FINDTEXT, 131

FINGER, 131

FSI, 131

FTP, 131

GDDM, 132

GETMAIL, 132

GETMINFO, 132

HELP, 132

IBMBASIC, 132

ID, 132

IDP, 133

LANG, 133

LIBRARY, 133

LIST, 134

MAIL, 134

MAN, 134

MD, 135

MEET, 135

MESSAGES, 135

MNSORT, 135

MS, 135

NET, 135

NEWPW, 136

NEWS, 136

NEXT, 136

OFF, 136

OUTPUT, 136

PCEXEC, 136

PHONE, 137

PING, 137

PIPE, 137

POLYSOLVE, 137

PQ, 137

PREVIOUS, 137

PRINT, 138

PROFILE, 138

PROG, 138

PURGE, 138

RD, 139

RECORD, 139

RENAME, 139

RN, 139

ROUTE, 139

SCHED, 140

SENDFILE, 140

SENDMAIL, 140

SHOWPFK, 140

SKIP, 140

SORT, 141

STATUS, 141

SUBMIT, 141

SUMMARY, 142

TAG, 142

TEDIT, 142

TELL, 142

TELNET, 142

TIME, 143

TODO, 143

TREE, 143

TUTORIALS, 143

USERS, 143

VER, 144

VIEW, 144
 VM, 144
 WEB, 144
 WINDOW, 144
 XTMUS, 145
 XTPC, 145
 MUSIC Commands from the Editor, 32, 37
 MUSIC Commands, Issuing, 78
 MUSIC Profile, 119
 MUSIC/SCRIPT, 116, (see SCRIPT)
 MUSIC/SP, (see MUSIC)

N

NAME - Editor Command, 42
 Name Field, 103
 Names File, 24
 NET - MUSIC Command, 135
 New Password Screen, 18
 NEWPW - MUSIC Command, 136
 NEWS - MUSIC Command, 136
 News Reader, 106
 NEXT - MUSIC Command, 136
 Next Line, 25, 30
 Nicknames for Mail, 100-101

O

Object Program, 64
 Off, 20
 OFF - MUSIC Command, 20, 136
 Office Applications, 4
 Office Menu, 116
 Offline Storage, 3
 Online Information, 6
 Online Storage, 3
 Option Codes - Library, 77
 Outgoing Mail, 92
 Select Codes, 93
 OUTPUT - MUSIC Command, 136
 Output for Compilers/Processors, 65
 Output Management Facility, 115

P

Paging Up, 48
 Paging Up and Down, 35
 Password, 15
 Passwords, 5, 15
 Changing, 18, 21
 Definition, 152
 PA1 Key, 8, 89, 105
 PA2 Key, 8
 PC, 4, 7
 PCEXEC - MUSIC Command, 136
 PCWS, 4
 Personal Computers, 4
 PF Keys, (see Function Keys)
 PHONE - MUSIC Command, 137
 PING - MUSIC Command, 137
 PIPE - MUSIC Command, 137
 Pointer, 32
 POLYSOLVE - MUSIC Command, 137
 PQ - MUSIC Command, 137
 PREFIX - Editor Command, 42
 Prefix Area of Editor, 42
 PREVIOUS - MUSIC Command, 137
 PRINT, 114
 PRINT - MUSIC Command, 138
 Print for Mail, 90
 Printer Name, 65
 Printers Batch, 3
 Printing Files, 112
 Processors, 62, (see Compilers)
 PROFILE, 119
 Options, 119
 PROFILE - MUSIC Command, 138
 Profile for Mail, 102
 PROG - MUSIC Command, 138
 Program File Names, 64
 Program Function Keys, (see Function Keys)
 Programming, 4, 62
 Executing a Program, 68
 Exercise, 65
 Languages, 62
 Tools, 4
 Publications, v
 PURGE - Editor Command, 42
 PURGE - MUSIC Command, 138
 Purging Files (Editor), 42

Q

QUIT - Editor Command, 36

R

RD - MUSIC Command, 74, 139
READING Screen Message, 7, 30
RECORD - MUSIC Command, 139
Record Format, 28
Record Length, 28
Refreshing Library Screen, 78
Refusing Mail, 90
Releasing Mail, 94
RENAME - MUSIC Command, 139
Rename Option Code - Library, 77
Renaming Files, 80
Replacing Text, 30
ReplyFrm for Mail, 90
Rescanning Library, 78
RESET Key, 7, 9, 30
Retrieve Key, 88, 105
RN - MUSIC Command, 139
ROUTE - MUSIC Command, 139

S

SAVE - Editor Command, 39, 41
SCHED - MUSIC Command, 140
Screen
 Format Editor, 29
 Messages, 7, 29
SCRIPT, 6
Select Codes
 Compilers/Processors, 64
 Incoming Mail, 90
 Mail, 87
 Outgoing Mail, 93
SENDFILE - MUSIC Command, 90, 140
Sending Mail, 94
SENDMAIL - MUSIC Command, 140
SHOWPFK - MUSIC Command, 140
Signing Off, 20
 From FSI, 20
Signing On, 15
SKIP - MUSIC Command, 140
Skipping to the Next Line, 25, 30
Software, 3

SORT - MUSIC Command, 141
Source File, 64-65
Starting the Editor, 26, 44
Starting the Editor, Exercise, 27
Statistics, 4
STATUS - MUSIC Command, 141
Storage, (see also Library)
Storage Offline, 3
Storage Online, 3
STORE - Editor Command, 40
Storing Files, 74
Strings, Character, 148
Student's CI Facility, 5
SUBMIT, 112
SUBMIT - MUSIC Command, 141
Submitting Files, 112
SUMMARY - MUSIC Command, 142
SYSTEM Screen Message, 7

T

TAB Key, 8-9, 25, 30, 35
TAG - MUSIC Command, 142
Tape Storage, 3
Teacher's Course Management Facility, 5
TEDIT - MUSIC Command, 142
TELL - MUSIC Command, 142
TELNET, 106
TELNET - MUSIC Command, 142
Terminals, (see also Workstations)
 Key Definitions, 7
 3270-Type, 15
TIME - MUSIC Command, 143
Time, Office, and Documentation Organizer, (see
 TODO)
TMENU Program, 5
TODO, 116, 5
TODO - MUSIC Command, 143
TOP
 Editor Command, 38
 FSI Command (Files), 78
Top of File, 32
Topic Names for Help, 17
Topic Names, Highlighted, 118
Transferring Mail, 91
TREE - MUSIC Command, 143
Tree-structured File System, 74
Tutorial, 18
TUTORIALS - MUSIC Command, 143

U

UNDELETE - Editor Command, 43
Undeleting Mail, 91
Unlocking the Keyboard, 30
Userids, 5, 11, 15
 With Mail, 101
USERS - MUSIC Command, 143

V

VER - MUSIC Command, 144
VIEW - MUSIC Command, 144
Viewing Files, 79
Viewing Mail, 91
VM - MUSIC Command, 144
VS Fortran Compiler, 63

W

Waterloo SCRIPT, 7
WEB - MUSIC Command, 144
Web Browser, 106, 153
Web Server, 4, 106
 Definition, 153
WINDOW - MUSIC Command, 144
Word Processing, 6
Word Processing 'MUSIC/SCRIPT, 116
Working Environments, 5, 15
WORKING Screen Message, 7
Workstations, 7, 2, 11, 15
 ASCII, 7
 Key Definitions, 7
 3270, 7
WRITING Screen Message, 7
WWW - Definition, 154

X

X Screen Message, 7
Xlogdel for Mail, 91
XTMUS - MUSIC Command, 145
XTPC - MUSIC Command, 145

Z

Zoom Option for Mail, 91

3

3270-Type terminals, 7, 15

Table of Contents

Chapter 1. Introduction	1
Overview	2
What is MUSIC/SP?	2
How is MUSIC Used?	3
Userids and Passwords	5
Working Environment	5
File System	6
What is the Editor?	6
Displaying Online Information	6
Word Processing	6
Workstations	7
Summary	11
Chapter 2. Getting Started	13
Overview	14
Connecting to MUSIC	14
Signing On	15
Working Environments	15
*Go Mode	15
FSI (Full Screen Interface)	16
Main Selection Screen of FSI	17
Getting Help	17
Changing your password (Exercise 1)	18
Signing Off	20
Summary	21
Chapter 3. Using the Editor	23
Overview	24
Editor Concepts	24
Creating and Saving a New File (Exercise 3a)	26
Editing Files	34
Common Editing Functions	34
Editor Commands	36
Editing an Existing File (Exercise 3b)	44
Summary	58
Chapter 4. Programming	61
Overview of Programming	62
Introduction to Programming	62
Using FSI Language Interfaces	63
Creating a Fortran Program (Exercise 4)	65
Summary	71

Chapter 5. File Management	73
Overview	74
How are Files Stored?	74
File Attributes	74
Listing Your Files	75
FLIB Topics of FSI	75
Tips on Managing File Groups	75
Processing Your Files	75
Changing the File Specification	79
Browsing Files	79
Copying and Renaming Files	80
Deleting Files	82
Summary	83
Chapter 6. Mail Facility	85
Overview	86
How to Use the Mail Facility	86
Incoming Mail	89
Example of Viewing Mail	91
Outgoing Mail	92
Creating and Sending Mail (Exercise 6)	94
Mail Directory	100
Mail Profile	102
External Mail	105
Other Forms of Communication	105
Summary	107
Chapter 7. Additional Features	109
Overview	110
Submitting and Printing Files	112
Output Management Facility	115
Time, Office, and Documentation Organizer (TODO)	116
Menu Facility for Teachers	117
Help Facilities	117
MUSIC Profile	119
Summary	122
Chapter 8. MUSIC Commands	123
Overview	124
MUSIC Command Descriptions	125
Glossary	147
Index	155

Figures

Figure 1.1 - Configuration of MUSIC	3
Figure 1.2 - MUSIC Applications	4
Figure 1.3 - Important Keys on your Workstation	9
Figure 2.1 - MUSIC/SP Logo	14
Figure 2.2 - *Go Mode	16
Figure 2.3 - Main Selection Screen of FSI (Full Screen Interface)	17
Figure 2.4 - Changing Your Password	18
Figure 2.5 - Profile Program Messages	19
Figure 3.1 - Steps for Using the Editor from FSI	26
Figure 3.2 - Edit New Screen	27
Figure 3.3 - Starting a new file called TRY.EX	28
Figure 3.4 - Screen Display for Input Mode	29
Figure 3.5 - Screen display for typing text in Input Mode	31
Figure 3.6 - Screen Display for Command Mode	32
Figure 3.7 - Edit Screen, Step 2 (Exercise 3b)	44
Figure 3.8 - Editor Screen, Step 3 (Exercise 3b)	45
Figure 3.9 - Bottom Command, Step 4 (Exercise 3b)	46
Figure 3.10 - Bottom of the File, Step 5 (Exercise 3b)	46
Figure 3.11 - Input Mode of the Editor, Step 6 (Exercise 3b)	47
Figure 3.12 - Adding Lines, Step 7 (Exercise 3b)	48
Figure 3.13 - Using the F7 Action Key, Step 8 (Exercise 3b)	48
Figure 3.14 - Deleting Lines, Step 9 (Exercise 3b)	49
Figure 3.15 - Deleting a Word, Step 10 (Exercise 3b)	50
Figure 3.16 - Marking Lines, Step 11 (Exercise 3b)	51
Figure 3.17 - Display Before Pressing ENTER, Step 12 (Exercise 3b)	52
Figure 3.18 - Display After Pressing ENTER, Step 12 (Exercise 3b)	52
Figure 3.19 - Display Before Pressing ENTER, Step 13 (Exercise 3b)	53
Figure 3.20 - Display After Pressing ENTER, Step 13 (Exercise 3b)	54
Figure 3.21 - Moving Cursor to the top, Step 14 (Exercise 3b)	55
Figure 3.22 - Inserting Lines, Step 15 (Exercise 3b)	55
Figure 3.23 - Inserting Words, Step 16 (Exercise 3b)	56
Figure 3.24 - Ending the Editor, Step 17A (Exercise 3b)	57
Figure 3.25 - Ending the Editor, Step 17B (Exercise 3b)	57
Figure 4.1 - Compilers/Processors Menu	63
Figure 4.2 - FSI Interface for VS Fortran	63
Figure 4.3 - VS Fortran Compiler Screen	66
Figure 4.4 - Filling in the VS Fortran Compiler Screen	66
Figure 4.5 - Input Mode of the Editor	67
Figure 4.6 - Creating a Program File	67
Figure 4.7 - Using the "C" Selection Code	68
Figure 4.8 - Viewing the Program Output File	69
Figure 4.9 - Viewing the End of the Output File	69
Figure 4.10 - Editing the file SQUARE.VSF	70
Figure 5.1 - Listing of a group of files	76
Figure 5.2 - Listing File Information	77
Figure 5.3 - Browsing a File	80
Figure 5.4 - Copy/Rename Screen	81

Figure 5.5 - Copying a File	81
Figure 5.6 - Deleting a File	82
Figure 6.1 - Main Menu of Mail	87
Figure 6.2 - Incoming Mail	89
Figure 6.3 - Selecting Mail Items for Viewing	91
Figure 6.4 - Reading a Mail Item	92
Figure 6.5 - Viewing Outgoing Mail	93
Figure 6.6 - Main Menu of Mail	95
Figure 6.7 - Create and Send Mail	96
Figure 6.8 - Addressing the Mail	97
Figure 6.9 - Typing in the message using the Editor	97
Figure 6.10 - Sending the Message	98
Figure 6.11 - Viewing a New Mail Item	99
Figure 6.12 - View the Message	99
Figure 6.13 - Deleting Mail	100
Figure 6.14 - Mail Directory	101
Figure 6.15 - Nickname for Several People	102
Figure 6.16 - Mail Profile Screen	103
Figure 6.17 - Mail Profile General Options	103
Figure 7.1 - Main Selection Screen of FSI	111
Figure 7.2 - Submit Selection Screen	113
Figure 7.3 - Print Selection Screen	114
Figure 7.4 - Output Management Screen	115
Figure 7.5 - TODO Main Menu	116
Figure 7.6 - CM Facility for Teachers	117
Figure 7.7 - MUSIC General Help Facility	119

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