

MUSIC/SP

Version 5

Release 1

Office Applications Guide

First Edition (April 1996)

This edition applies to Release 1 of Multi-User System for Interactive Computing / System Product (MUSIC/SP) Version 5, and to all releases of this product until otherwise indicated in new editions or Technical Newsletters. MUSIC/SP Version 5 is published and licensed by McGill Systems Inc.

A form for reader's comments is provided at the back of this publication. If the form has been removed, comments may be addressed to: MUSIC Product Group, McGill Systems Inc., 550 Sherbrooke St. West, Suite 1650, Montreal, Quebec, Canada H3A 1B9. Fax: (514) 398-4488.

About this Guide

This publication describes how to use MUSIC/SP for office applications. Emphasis throughout this guide is placed on the TODO facility (Time, Office, and Documentation Organizer) of MUSIC/SP. TODO is intended for office professionals and other people who can benefit from the time management and word processing functions it provides. TODO operates under control of MUSIC/SP by means of menus, that simplify the use of the system.

When the term *MUSIC* is used in this publication, it refers to MUSIC/SP.

Trademarks

- MUSIC/SP, TCP3270 are trademarks of McGill University, Montreal, Canada
- IBM, Micro Channel, AS/400, Personal System/2, PS/1, PS/2, and AIX are registered trademarks of International Business Machines Corporation.
- SAA, ES/9370, ES/9000, PROFS, PR/SM, MVS/ESA, VM/ESA, PC-DOS, DisplayWrite, OfficeVision, and GDDM are trademarks of International Business Machines Corporation.
- DEC VT-100 is a registered trademark of Digital Equipment Corporation.
- MINITAB is a registered trademark of MINITAB Inc.
- SAS and SAS/GRAPH are registered trademarks of SAS Institute Inc., Cary, NC, USA.
- UNIX is a trademark of AT&T Bell Laboratories.
- Eudora is a registered trademark of the University of Illinois Board of Trustees, licensed to QUALCOMM Inc. QUALCOMM is a registered trademark and registered service mark of QUALCOMM Inc.
- Other names may be trademarks or registered trademarks of their respective companies.

Chapter Outlines

Chapter 1 - Introduction

The introduction gives you a background to the MUSIC/SP (MUSIC) system in general, along with useful information for: signing on, interpreting screen messages, and getting help.

Chapter 2 - Menu Facilities

This chapter describes the menu facilities that are provided with MUSIC/SP. Full-Screen Interface (FSI) and Time, Office, and Documentation Organizer (TODO) is introduced. The optional IBM DisplayWrite/370 program is also described in this chapter.

Chapter 3 - MUSIC Editor

This chapter describes the Editor program for creating and revising files on MUSIC/SP. Full-screen operation of the Editor and Editor commands are described here.

Chapter 4 - Electronic Mail

The Electronic Mail Facility for sending and receiving mail is described in this chapter. Also, the Mail Profile and Mail Directory programs are described here.

Chapter 5 - MUSIC/SCRIPT

MUSIC/SCRIPT (SCRIPT), a word processing package on MUSIC, is described in detail in this chapter. All the necessary formatting instructions are included for designing high quality documents.

Chapter 6 - TODO Menu Items

This chapter describes TODO menu items (options). These functions of TODO include: The EXECUTE option for running documents through the SCRIPT program to produce formatted text; SUBMIT function for sending SCRIPT documents to remote printers; SCHEDULES for scheduling individual calendars, conference rooms or equipment; SCHEDULE MEETINGS for checking calendars and scheduling meetings; TELEPHONE LOG for recording telephone messages; CALCULATOR for solving routine calculations and complicated equations; SPELLING CHECK for pointing to and correcting spelling errors in full-screen mode; and LIBRARY for producing a listing of all the user's files on MUSIC.

Chapter 7 - Utilities

Additional features of TODO are included in a separate menu called "Utilities". The items on this menu include: NAMES facility for setting up nicknames to use with Electronic Mail and Schedule; PROFILE program for displaying and updating userid information; CONTENTS utility for creating a table of contents for SCRIPT documents; INDEX utility for creating indices.

Also included in this chapter, is the documentation for the REMIND and TMENU programs. REMIND is used for setting reminders with TODO and TMENU is used for creating and updating menus, like the TODO menu.

Appendixes

Appendixes A - C include miscellaneous items of interest to TODO users. These items are: Using SCRIPT without TODO, Sample editing session for non-full-screen, and common error messages. Appendixes D and E are of interest to systems administrators who wish to make changes to TODO. Appendix D discusses how to initialize conference rooms and equipment for the TODO menu items SCHEDULES and SCHEDULE MEETINGS. Appendix E shows the CREATE program in detail, highlighting the areas that could be changed.

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

Introduction

What is MUSIC?

MUSIC is a time-sharing system that allows a number of users to access the computer concurrently. Typically, the user is connected to the computer by a typewriter-like device called a *workstation*. At the workstation, you can interact with the system directly, telling it what to do. This *interactive* system, in turn, responds to that request at your workstation.

The MUSIC system can be used for many different purposes. For example, word processing, programming, and electronic mail. The fact that MUSIC and its connected workstations can be used for different purposes by many people simultaneously, need not be a concern. Each person is treated as if they had the computer to themselves. The figure below shows a simple configuration of the MUSIC system.

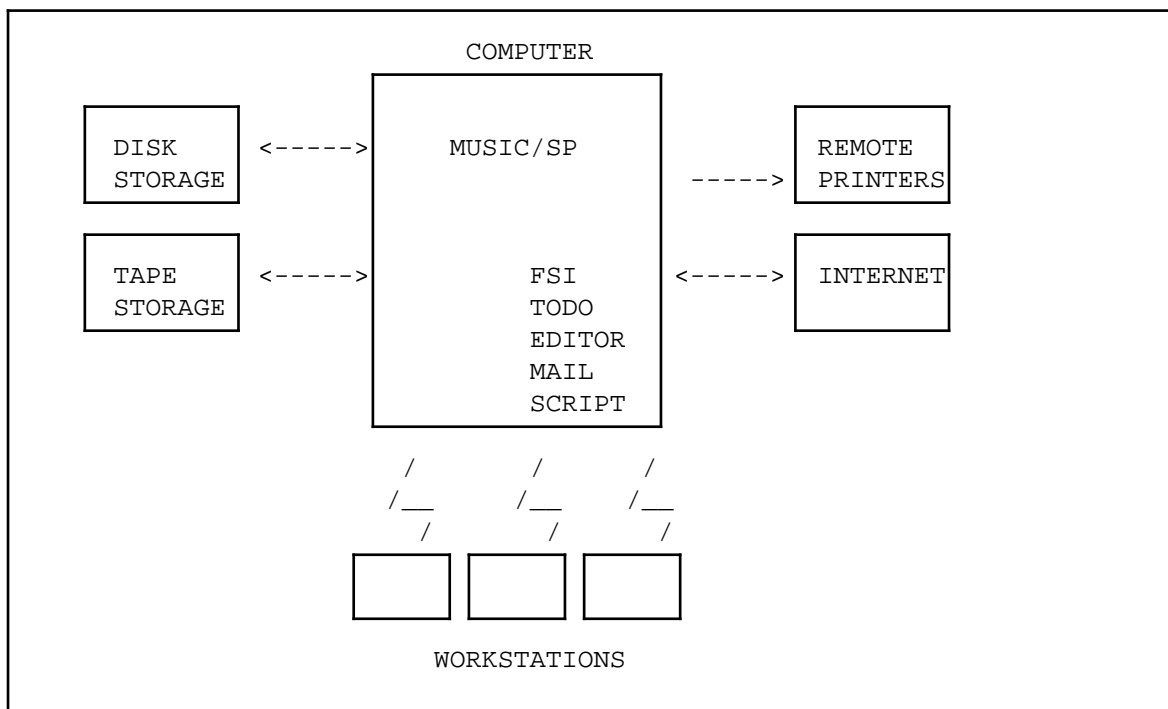


Figure 1.1 - Configuration of the MUSIC System.

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 and MAIL. Full-Screen Interface (FSI) and Time, Office and Documentation Organizer (TODO) are two menu facilities available to you. FSI, TODO, the Editor, MAIL, and SCRIPT are all programs or *software* stored online on disk.

Some of the equipment (*hardware*) attached to the computer are: disk packs for online storage of your documents; tape drives for offline storage; batch printers at the central site for large volumes; and a variety of different types of workstations.

MUSIC supports many types of workstations. These include personal computers, 3270-type terminals, and ASCII terminals.

Commands typed in by the user are used to instruct MUSIC to do different things. Items on the TODO menu are examples of issuing commands to MUSIC. (Refer to Chapter 2 for information about the TODO menu.) MUSIC commands can also be typed in the SELECT OPTION area of the menu. For more information, read the MUSIC COMMANDS section.

Menu Facilities

MUSIC/SP includes menu facilities that are designed to provide easy access to MUSIC programs.

FSI (Full-Screen Interface) provides an interface for general use of the MUSIC system. It provides access to common functions such as electronic mail, submitting and printing files, and file management. This interface is described in *Chapter 2. Menu Facilities*.

TODO (Time, Office, and Documentation Organizer) is an office menu system that runs under MUSIC/SP (Multi-User System for Interactive Computing/System Product). TODO is designed for office professionals from management to secretarial staff. Menus can be tailored to suit individual needs. A knowledge of programming is not needed to use the TODO system. This interface is described in *Chapter 2. Menu Facilities* and in *Chapter 6. TODO Menu Items*.

Much of this guide is devoted to non-programming applications. The TODO facility is referred to in many of the chapters and is assumed to be the method used for accessing programs discussed in this manual. Programmers may wish to refer to the *MUSIC/SP User's Reference Guide* for details about programming on MUSIC.

What are Files?

Files are collections of typed lines or records. Word processing users often use the words *file* and *document* to mean the same thing.

Each user can store many files on MUSIC. Each file is given a file name that is used to identify it. Users can ask MUSIC to display a list of the names of all the files they own. This is called a library listing. For example, item "L" in the TODO menu performs this task.

How are Files Stored?

Your files are stored in the MUSIC Save Library on disk under your userid. You simply issue the command FILE after creating or revising a document to store it. To retrieve a document (file) use the name that you gave it.

If you wish, your files can be archived onto magnetic tape for backup or transport. Refer to *MUSIC/SP User's Reference Guide* for information about archiving files.

What is the Editor?

The Editor is the MUSIC program that is used to create and revise files. (These files can contain the text of your document or programs.) Often we just use the term edit to refer to the process of revising (or editing) the file using the Editor.

Word Processing

MUSIC/SP supports three word processing programs. MUSIC/SCRIPT, IBM DisplayWrite/370, and Waterloo SCRIPT (WATCOM Products Inc.). MUSIC/SCRIPT is included with the MUSIC/SP system and is described in detail in this manual.

DisplayWrite/370 is an optional IBM program that may be available at your installation. This program is a host-based text editor and formatter. Information about using this program can be found in *Chapter 2. Menu Facilities*.

Waterloo SCRIPT is a powerful and versatile text formatter, written and distributed by the University of Waterloo. Some of the features of Waterloo SCRIPT include proportional spacing, the ability to generate boxes around text, footnotes, producing multiple columns of text on a single page, creating indexes, and hyphenation. Waterloo SCRIPT supports many popular output devices ranging from simple printing terminals to sophisticated laser printers.

What is 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 displayed in the final output document. (All control words are described in *Chapter 5 - MUSIC/SCRIPT*.)

Other programs are provided with MUSIC to aid the word processing user. These utility programs include: ones to perform spelling checks, 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.)

SCRIPT and its associated programs allow secretarial, administrative and programming personnel to take advantage of the computer's resources to prepare, store and produce final documents ready for mailing or publication. Corrections and revisions are only made to the areas needing modification, thus saving the time needed to retype unchanged areas. (The modifications to the text are made with the MUSIC Editor.)

Establishing the Computer Connection

Naturally, before you can enter anything into the computer you must be connected to it first. Connection between the computer and the workstation is made through a regular telephone line or through a direct cable. Exactly how you establish the connection may be different from one user to another. The *MUSIC/SP User's Reference Guide* describes the various ways in detail.

Signing On

Once a connection has been made between the computer and your workstation, you sign on with a userid (identification code) and password. The userid is the means by which the computer identifies you, the user. Each userid can be from 1 to 16 characters long and can optionally have a subcode of up to 8 characters. Subcodes allow users with the same userids to share a common library of files. Typically, userids do not have subcodes and each person has their own private files. MUSIC does not restrict the number of users that

can be actively signed on with the same userid (unless the userid is restricted). The password is your authorization to use that userid. It is a good idea to change your password frequently to maintain security. Passwords may be composed of any characters, and may be from 1 to 8 characters long.

Figure 1.2 illustrates signing on to MUSIC. The first half of the figure shows the sign-on screen. The second half of the figure shows messages that MUSIC displays after you have signed on.

<pre>*MUSIC/SP -- SIGN ON</pre>	
<pre>MUSIC Userid: _</pre>	<pre><=== The cursor is on this line for you to type in your userid.</pre>
<pre> Password:</pre>	<pre> Use the TAB or NEW LINE key to skip to the password field, type your password, press ENTER.</pre>
<pre>F1: Help</pre>	<pre>F3: Sign off</pre>
<pre>*Userid last signed on 17:10 1994/04/29 *Sign-on 1994/04/29 Time=09:10, Port=08E, TCB=104 *Funds Remaining as of Last Accounting..\$168.17 *Go</pre>	

Figure 1.2 - Signing on to MUSIC

Notes:

1. The computer (MUSIC) does not respond to text typed in until the ENTER key is pressed. Make sure you know what key or keys to press on your particular type of workstation to enter information to the computer.
2. The amount of money left under a MUSIC userid is displayed each time the user signs on if the funds for that userid are limited.
3. To have the TODO menu automatically display when you sign on, use the PROFILE program. Refer to *Chapter 7 - Utilities* under the section "Profile".
4. ***Go**
This message appears for users who do not have TODO automatically invoked. *Go mode, or MUSIC Command mode, is the time to type MUSIC commands. The MUSIC command to invoke TODO is:

```
exec todo <option>
or
todo <option>                                <-- EXEC is the default command
                                                on MUSIC and can be excluded.
```

If only "todo" is entered, then the user is presented with the TODO menu. If "todo 1" is typed, then the user goes directly to item 1 of the menu. See the next section on the TODO menu for a list of items.

Workstation Messages

The following messages appear at the bottom of the screen when the workstation is signed on to 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 the user does not usually see this message.)

Working The computer is processing your instructions. Wait until your request is finished (the message `More...` or `Reading` appears).

INPUT

INHIBITED When this message appears on the workstation then you cannot enter information. On some workstations, this message is indicated by a large X at the bottom of your screen. There are three reasons why this message can appear:

1. The system is working on your instructions.
2. The cursor is out of bounds. Press RESET and move the cursor back in bounds with an arrow key.
3. The system has gone *down* or is *hung up* due to hardware or software problems.

More... The computer is waiting for you to press ENTER to proceed 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.

Important Keys on your Workstation

The figure below shows the keys at your workstation that are important in understanding how to use the workstation efficiently. Please read this section carefully before signing on to the computer for the first time.

Program Function Keys

CLEAR	ALPHABETIC KEYBOARD	PA1	PA2	PF1	PF2	PF3
ERASE INPUT		INS MODE	DEL	PF13	PF14	PF15
ERASE EOF		↑	↓	PF4	PF5	PF6
TEST REQ		→	←	PF16	PF17	PF18
	TAB NEW LINE			PF7	PF8	PF9
	RESET ENTER			PF19	PF20	PF21
				PF10	PF11	PF12
				PF22	PF23	PF24

Figure 1.3 - Important Keys on your Workstation

Most workstations come with the keys shown above or equivalents. These display workstations are referred to as IBM 3270-type workstations.

Local Editing Keys

A 3270-type workstation 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 in the following table.

<u>Key</u>	<u>Function</u>
DEL	Deletes one character at the current cursor position.
ERASE EOF	Erases remainder of line from the current cursor position.
INS MODE	Allows for insertion of characters at the current cursor position. Note that the RESET key terminates INS MODE and returns to replace mode. (You can then type over characters again.)
RESET	Cancels INS MODE and/or the INPUT INHIBITED condition. This key is on the bottom left-hand corner of the alphabetic 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 indicates your current position on the screen. The cursor moves as you type. The "-->|" key is the TAB key. The NEW LINE key is an arrow which points down and to the left. These two keys are important for skipping from one field on the screen to another.

Action Keys

The keys which cause an interaction with the system are referred to as "action keys". They are: ENTER, the program function (PF) keys PF1 to PF24, CLEAR, PA1, PA2, and TEST REQ.

The ENTER key is the most common action key since the computer does not know that you have typed in information until you press an action key (most often the ENTER key). Also the ENTER key is used 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.

Depending on the features of the workstation, the number of function keys may be 0, 10, 12, or 24.

Getting Help

Online help provides interactive assistance on a wide variety of topics. Press F1 or type "HELP" to access the help facility.

Signing Off

I suppose all good things must come to an end. When you are ready to part company with the computer, type OFF in the command area.

MUSIC Commands

MUSIC commands are instructions to the MUSIC system and are identified with a slash (/) in front when issued from the TODO menu. For example, typing "/COPY file1 file2" asks MUSIC to make a copy of your file called *file1*. MUSIC commands can be typed in either upper or lower case letters (small or capital letters). MUSIC understands these commands when they are typed in the SELECT OPTION area (command area) of a menu screen.

Many commands are available on MUSIC. The most common commands are described below. Refer to the *MUSIC/SP User's Reference Guide* for a complete list of all MUSIC commands with full descriptions.

Most of these commands (except /CANCEL, /SKIP, and /TIME) are to be typed in when the system is in Command mode. You are in Command mode when the TODO menu or the Utility menu is displayed. Type MUSIC commands in the SELECT OPTION area (command area) and press ENTER. The following rules apply to MUSIC command descriptions:

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 items or character strings that you supply.
3. Upper case portions of commands are actual keywords and these must be entered as shown.
4. Commands need not be entered in upper case because the system translates commands to upper case when necessary.
5. Alternate options are found within brackets directly below initial choices.
6. All parameters within square brackets are optional and may be omitted. DO NOT TYPE [] as part of the command.
7. It is recommended that you enter MUSIC commands preceded by slash (/). This avoids confusion between menu items or TODO commands that can also be entered in the SELECT OPTION area. (In *Go mode the / is not necessary.)

/CANCEL
/CA

Terminates activity in progress. The /CANCEL command forces a return to the TODO menu or Utility menu. This command can be used in all modes of MUSIC, except Command mode.

This command is useful when you are in the middle of displaying a document and you wish to terminate and return to the menu. First, you must go to Break mode by pressing either PA1 or equivalent break key. Once you have done this, you have the system's "attention", now enter the /CANCEL command.

```
/CI
```

Invokes the Course Information facility for students.

```
/CM
```

Invokes the Course Management facility for teachers. For more information refer to the *MUSIC/SP Teachers Guide*.

```
/CONF confname
```

Invokes the Conferencing facility. For more information refer to the *MUSIC/SP Mail and Conferencing Guide*, or type "HELP CONF".

```
/COPY oldfile newfile
```

Creates a copy of the file *oldfile* into a new file as specified by *newfile*.

```
/DECRYPT infile [outfile]
```

Invokes the DECRYPT program for restoring files that have been encrypted. See ENCRYPT.

```
/DISPLAY name [ ,x      ] [ ,y      ]  
/D           [ ,LAST   ] [ ,LAST   ]  
           [ ,LAST-n ] [ ,LAST-n ]
```

Prints the file specified by the *name* starting from line *x* to line *y* and include line numbers specified in the

parameters. LAST means the last line of file. If x and y are omitted, the Editor displays the entire file.

```
/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.

```
/FINDTEXT 'text' [FILE(spec)] [FROMLINE(n)] [TOLINE(n)] [FROMCOLUMN(n)]  
/FT [TOCOLumn(n)] [FIRST(YES|NO)] [FINDS(YES|NO)] [CASE(I|R)]  
[OUTPUT(filename)]
```

FINDTEXT is used to search through some or all of the files in your library for a text string. It produces a list of text lines, with line numbers, when the text is found. The file name is also reported.

FINDTEXT supports both full screen and line mode usage. If you want to enter all parameters on screen fields, enter FINDTEXT or FT without parameters. Otherwise a screen is only provide, to assist you in correcting parameters that are in error.

Parameters:

- 'text' text is a character string that is to be searched for in the list of files defined by FILE. If invoked from *Go, the quotes are required when any of the options below are also specified.
- File(spec) *spec* can be one of:
- a) a library pattern such as "*.s", "*", or "*work.*.?" etc. All file names in your library that match the specified pattern will be searched for "text".
 - b) a file that contains a list of files to be used in the search of "text", specified as "<file-name" where filename is an existing file. If this parameter is not specified then all your files are checked.
- FROMLine(n) *n* is an integer greater than 0, that specifies the starting line within each file that the search is to begin at. The default is 1. (Abbreviations: FROML and FL.)
- TOLine(n) *n* is an integer greater than 0, that specifies the last line within each file that the search is to stop at. Keywords "all", "max", and "end" are used to indicate the entire file. The default is end. (Abbreviations: TOL and TL.)
- FROMColumn(n) *n* is an integer greater than 0, that specifies the starting column within each line of the file that the search is to begin at. The default is 1. (Abbreviations: FROMC and FC.)
- TOCOLumn(n) *n* is an integer greater than 0, that specifies the last column within each line of the file that the search is to stop at. Keywords "all", "max", and "end" are used to indicate the entire file. The default is end. (Abbreviations: TOC and TC.)

FIRst(YES|NO) When set to "yes", causes the search to stop at the very first match. The default is no.

FINds(n) specifies the number of times to search within each file. After *n* matches in a file, searching is halted in that file. The default is 1.

Case(I|R) When set to I (ignore) the matching is done as if all characters in "text" and the file were in the exact same case. So that "Case" will match with the string "case". When R (respect) is used "Case" will not match "case". The default is ignore.

Output(filename)
This option defines where the output of the search will be placed. You can enter here any file name. The default is "*terminal" to display output at your workstation.

Examples:

1. In this example the string "call ttime(" will be searched for in the library files that end in ".s" .

```
FT 'call ttime(' f(*.s)
```

2. This example searches for the string 'montreal' in the files that end in ".doc" and stores the output of the search in file LIST. Since we want to find only lower case "montreal", we will set case to respect.

```
ft 'montreal' f(*.doc) c(r) o(list)
```

3. In this example we will locate and display only those files where "/inc gork" occurs on line 5 of the file.

```
ft '/inc gork' froml(5) tol(5)
```

```
/FSI [item]
```

This command is used to invoke the FSI (Full Screen Interface) subsystem. This facility allows you access to various components of MUSIC system through a series of selection menus.

```
/HELP [topicname n]
```

This command invokes the MUSIC HELP facility for accessing information about a wide variety of topics. *topicname* is the name of the item on which you want information and *n* is the item selection code (usually a number) from a help menu. Most of the *MUSIC/SP User's Reference Guide* can be found online through this facility. For example, you can enquire about how to use a particular MUSIC command or a utility program. If the information about a particular item is not available, the item will be recorded in a system log file which will be reviewed by the MUSIC administrator.

Workstations with full-screen display enables you to easily browse the HELP facility through menus and text screens. You are able to page forward and backward. You can place your cursor on any highlighted topic name to jump from one topic to another.

If just HELP is entered without a topic, general information about MUSIC is given and a list of general topics is displayed.

Note: The HELP command used from *Go mode accesses MUSIC's general help facility. Other help facilities are provided with a variety of programs on MUSIC. For example, when you are using TODO, the command "HELP" (or F1) gives you the TODO help facility. If you want MUSIC's general help facility while you are within TODO, use the command "/HELP". The slash is necessary to distinguish MUSIC commands from TODO commands.

```
/ID userid;trmcls
```

Signs you on to the MUSIC system.

userid is your identification authorizing you to use MUSIC.

trmcls informs the system of terminal class. The following is a list of workstations currently supported.

<u>trmcls</u>	<u>Manufacturer and Model</u>
3101	IBM 3101 terminal or PC running 3101 emulator
3270A	IBM 3270 terminal with APL character set
3270B	IBM 3278 or 3279 terminal with APL character set
PCWS	PC running MUSIC's PC Workstation Software
IBMPC	PC running Async Communications Software
ASCII	Any ASCII printer or ASCII video display terminal

```
/IDP
```

Invokes the Information Display Program for creating help facilities and bulletin boards. Help is available once the program is invoked.

```
/LANGUAGE [language]  
/LANG      [ ?      ]
```

The LANG command allows you to display or change the default language setting for messages, etc. 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. Enter

"LANG ?" to get a list of the languages supported at your site.

```
/LIBRARY srchspc [FULL][TAG][VSAM][PACK][COM][NOSORT][SAVE(filename)][X]
/LIB           [F ][T ][V ][P ][C ][S(filename) ]
               [FNAME][SPACE(n)][APPEND]
```

This command is used to obtain a list of file names saved in the Save Library under your userid. The list is produced in alphabetical order. This command is acceptable from batch by using its full form of LIBRARY with or without any parameters after it. The abbreviation of each parameter is shown under its full form.

The LIBRARY command can be entered without specifying *srchspc* or parameters. If you wish to add parameters to this command then you must specify *srchspc*.

Parameters:

srchspc (search specification) specifies which file names, belonging to the user, are to be searched for in the Save Library index. It may be an actual file name, in which case only that file is listed. Or, the string may contain one or more *wild* characters ? and *, in which case all file names matching the pattern are listed. A ? matches any single character in the corresponding position of a file name. A * matches any group of 0 or more characters. If the srchspc parameter is not specified, all the file names belonging to the user are listed.

To list all your file names you can enter LIBRARY or if you wish to specify parameters then enter "LIBRARY * parameters". The * is your search specification indicating all files on your userid.

COM lists only files in the common index.

FULL indicates that for each file listed, its corresponding attributes are also given. See the discussion below on file attributes about the information provided.

TAG is the same as specifying FULL except that it also displays the tag information for each file. TAG implies FULL.

VSAM lists only VSAM (Virtual Storage Access Method) files. VSAM implies FULL.

PACK Normally only one file name is displayed per line for the LIBRARY command. Specifying PACK indicates that several file names may be combined on one line. PACK cannot be specified if a FULL, TAG or VSAM parameter is used.

NOSORT causes the file names to be put out in unsorted order. This causes output to appear immediately. When the library listing is sorted then there is a short delay.

SAVE(filename) indicates that the output of the LIBRARY command is to be saved in a file instead of displaying on the workstation (unit 6). If *(filename)* is specified with the SAVE parameter, the output is written to the file called *filename*. If *filename* is omitted, the name @LIB is used. The original contents in the file is overwritten if the file already exists.

X This option is similar to FULL, but the output is in a slightly different format and includes time of last open for write, userid of last writer, and number of records. An asterisk (*)

appears after the file size if the file has releasable unused space.

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.
FNAME	Causes full file names (including userid and directory path) to be displayed.
APPEND	specifies that the output should be written to the end of the file given by the SAVE parameter, after any existing data.

File Attributes

When FULL is specified on the LIBRARY command, extra information about each listed file is also displayed (See examples below). This information consists of:

FILENAME	indicates the name of the file.
RSIZ	indicates the logical record length of the file.
RFM	indicates the record format of the file. The possible record formats are F (fixed length), FC (fixed compressed), V (variable length), VC (variable compressed), and U (undefined).
SIZE	indicates the size of the file in number of K (1024) bytes incremented in 2K bytes. The smallest size for a file 2K.
USED	indicates the percentage of the file space that is used.
EXT	indicates the number of extents of disk space that are used by the file.
REF	indicates the date the file was last opened for reading only. 0000000 means that the file has not been referenced since it was last written on.
WRITE	indicates the date the file was last opened for writing.
T	indicates the type of file. The file is in the common library (public) when the letter C appears in this column. If a V appears, the file is a VSAM file.
OWN	indicates the access control of the file for the owner. R means read access is allowed. W means write access is allowed. X means only read access for <i>execute-only</i> is allowed. A means only write access for <i>append</i> is allowed.
OTHER	indicates the access control of the file for non-owners. The meaning of various letters is the same as listed above.

```
/LIST [name] [ ,x      ] [ ,y      ]  
/L      [ ,LAST  ] [ ,LAST  ]  
        [ ,LAST-n] [ ,LAST-n]
```

Has same effect as the /DISPLAY command, except line numbers are not displayed.

```
/MAN
```

Invokes the word search facility for displaying MUSIC manuals online.

```
/NEWS  
/N
```

Lists current news items of interest to MUSIC users.

```
/OFF HOLD
```

Signs you off the MUSIC system. If the HOLD parameter is specified, a /ID command may be entered afterwards, without having to connect to MUSIC first.

```
/PRINT filename [R(location)] [CC]
```

Lists files at remote printers. The specified file prints in the same format as entered and does not execute. See "Printing Files" in *Chapter 6 - TODO Menu Items* under the SUBMIT section.

```
/PURGE name  
/PUR
```

Removes a file from your library.

```
/RENAME oldname newname  
/REN
```

Renames file from *oldname* to *newname*.

```
/SKIP [n ]  
/SK   [ALL]
```

Skips *n* (*n*=number) lines or ALL output lines, default setting is 1. See the /CANCEL command description above for information on Break mode.

```
/SUBMIT  
/SUB
```

Submits a program for execution and printing at a remote printer. For details about this facility refer to "SUBMIT for Other Programs" in the SUBMIT section of *Chapter 6. TODO Menu Items*. SCRIPT users should use the SUBMIT SCRIPT item on the TODO menu to perform this operation.

```
/TIME  
/T
```

Determines the time of day (during Break mode) and the amount of processing units used for the current job, running up to the time the command is issued. See the /CANCEL command description above for information on Break mode.

```
TODO [n]
```

This command invokes the Time, Office, and Documentation Organizer (TODO) facility. This facility allows you to access various components of the MUSIC system through a selection menu. This menu consolidates the most frequently used programs for an office environment. For example, access to SCRIPT (word processing program), MAIL (electronic mail), SPELL (spell checking), etc. Help is provided once the facility is invoked.

```
WEB [url address]
```

This command invokes the Web line-mode browser for displaying World-Wide Web documents on the Internet.

Chapter 2. Menu Facilities

Menu Facilities

Easy access to MUSIC programs can be done through menu (or panel) facilities. This menu approach reduces the need to remember commands and helps novice users to be productive immediately.

MUSIC/SP offers four menu facilities for users and one menu facility for the system administrator. The system administrator facility provides step-by-step menus for installing, monitoring, maintaining, and tailoring the system. It is documented in the *MUSIC/SP Administrator's Guide*.

Each of the four user facilities combine several functions of the MUSIC/SP system. These menu facilities fall under the categories of general users, student computing, and office applications. They are as follows:

- FSI (Full-Screen Interface) - General Users
- CM (Course Manager) - Teachers
- CI (Course Information) - Students
- PROG (Programmers Menu) - Students
- TODO (Time, Office, and Documentation Organizer) - Office Applications

MUSIC/SP provides the programming tools to support the creation and modification of menus. You can easily create your own environment on MUSIC/SP or create an environment tailored for a particular group of users. You can choose to have one of these facilities start automatically each time you sign on to MUSIC/SP. For information about creating and changing menus, refer to the topic "TMENU" in *Chapter 7 - Utilities*.

Notes:

1. Your installation may provide additional menu facilities other than the ones described here.
2. An optional word processing facility called IBM DisplayWrite/370 may be available at your installation. Information about using this program is given later in this chapter.

Full Screen Interface (FSI)

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

```
Help   End   Up    Down  Top   Bottom Main   Scan   Find   Topic  Quit
-----Full Screen Interface for MUSIC----- Page 1/1
Command ==>
* NO NEW MAIL *
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=> x.*                < 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      F2=Suggest      F3=End      F9=Find      F12=Retrieve
```

Figure 2.1 - Main Selection Screen of FSI

Menu for Student Computing (PROG)

```
----- PROGRAMMER'S MENU -----
SELECT OPTION ==>_

                                     TIME: 11:49 am
1  EDIT      - edit an existing file
2  EDIT      - edit a new file      1989      FEBRUARY      1989
3  LIBRARY   - look at your library
4  PASSWORD  - change your password  S   M   T   W   T   F   S
5  PROFILE   - change your userid options      1   2
6  NEWS      - list latest news      3   4   5   6   7   8   9
                                     10  11  12  13  14  15  16
                                     17  18  19  20  21  22  23
                                     24  25  26  27  28

                                     Day of year: 49

=====
F1:Help on Menu F2:Today's Reminders F3:Exit F6:Mail Waiting F12:Retrv
```

Figure 2.2 - PROG Menu Display

The above figure illustrates the menu facility called PROG. This is an example of how the working environment can be tailored for certain users. In this case, this is a typical configuration for students. This menu can be modified to include other programs as required. For information about creating and changing menus, refer to the topic "TMENU" in *Chapter 7 - Utilities*.

Menu Facility for Teachers (CM)

This system allows teachers to communicate with their class via the computer. The teacher uses the CM command (Course Manager) to manage the course material and the students use the CI command (Course Information) to access the information you have prepared.

For more information refer to the *MUSIC/SP Teacher's Guide*.

Time, Office, and Documentation Organizer (TODO)

To use the TODO facility, the first step is to make the connection from your workstation to the computer by *signing on* to the MUSIC system, with a MUSIC userid (ID) and password. MUSIC waits for instructions when the TODO menu is displayed. You can select an item from the menu or type in a MUSIC command. Some users may not go directly to the TODO menu but see the message *GO displayed on the screen. Type "TODO" to get to the menu. At this time, you need to select an item from the menu.

The following diagram illustrates the screen display for the TODO facility. The cursor is positioned in the SELECT OPTION area where you can type in your selection from the menu.

```
----- TIME, OFFICE, AND DOCUMENTATION ORGANIZER -----TODO
SELECT OPTION ==> _

                                TIME: 11:49 am
1 Schedules
2 Electronic Mail <option>      1989      FEBRUARY      1989
3 Telephone Log
4 Calculator <calc>              S    M    T    W    T    F    S
5 Spell Check document <option>                1    2
C Create new <filename>          3    4    5    6    7    8    9
R Revise <filename>              10   11   12   13   14   15   16
X Execute SCRIPT <filename>      17   18   19   20   21   22   23
S Submit SCRIPT <filename> <options> 24   25   26   27   28
L List File Names <options> <pattern>
M Schedule a Meeting <options>                                Day of year: 49
U Utilities <option>

=====
F1:Help on Menu  F2:Today's Reminders F3:Exit F6:Mail Waiting F12:Retr
```

Figure 2.3 - TODO Menu Display

Function Keys on TODO menu

- F1 Help on Menu - Describes how to use the menu.
- F2 Today's Reminders - Show reminder(s) for today. Refer to the "Remind" section in *Chapter 7. Utilities*.
- F3 End - Stop display of menu, terminate.
- F6 Mail Waiting - Post message if mail is waiting or not waiting.

Selecting an Item

Consult the list of items (options) on the menu. Type the item code of your choice in the SELECT OPTION area. Along with the code you can type additional information for the selection, as indicated within angular brackets (<>) on the menu.

Example selecting "Revise" (code R) with the filename "myfile":

```
SELECT OPTION ==> R myfile
```

Notes:

1. There are three types of commands that you can enter in the SELECT OPTION area (command area):
 - a. TODO selection items
 - b. TODO commands
 - c. MUSIC commands

If the command is preceded by a slash (/), then the command is executed as a MUSIC command. If the command is entered without a slash, then TODO still processes the command as a MUSIC command, provided it is not a selection option or a TODO command. (Some installations may have restrictions on this feature.) For general help on the MUSIC system type "/HELP" in this area. (The F1 key and the TODO command HELP give you help on the TODO menu only.)

Example: Type the MUSIC command to receive help with MUSIC.

```
SELECT OPTION ==> /help
```

2. Online help is available with each menu item after it is selected.
3. The REMIND program is available with TODO although it is not a menu item. Use the F2 or the REMIND command to get or set reminders respectively. Refer to the "Remind" section in *Chapter 7. Utilities*.

TODO Commands

The following commands are available and some of these commands are in the form of function keys and have been explained previously.

CANCEL	GETREM (F2)	OFF
CLEAR	HELP (F1)	PFnn def
DELIM char	KEYS	REMIND
END	MAIL (F6)	*-n
EXEC	MENU	=x

CANCEL	Stop display of menu, terminate menu.
CLEAR	Clear the menu input areas.
DELIM char	Change the multiple command delimiter to <i>char</i> , where <i>char</i> is a character of length 1, and not one of the characters a to z, 0 to 9, *, =, /.
EXEC	Pass the SELECT OPTION area to MUSIC to be executed as a command

KEYS	Display a screen which allows you to change the function (PF) key definitions. These definitions are saved in a file, TMENU.KEYS, so that they can always be used.
MENU	Display the menu.
OFF	Exit from this program and sign off.
PFnn	Show the definition of PFnn, where <i>nn</i> is a number from 1 to 24.
PFnn def	Set the definition of PFnn to <i>def</i> , where <i>nn</i> is a number from 1 to 24. The definition can be from 1 to 50 characters long.
REMIND	Enter the reminder facility.
*	Display the last command entered in the SELECT OPTION area.
*-n	Display the previous <i>n</i> th command entered in the SELECT OPTION area, where <i>n</i> is a number from 0 to 4.
=x	Go to the first menu and process <i>x</i> .

Menu Items

The following is a brief description of the TODO menu items. The items in this menu select some of the more frequently used programs on MUSIC for an office environment. As well as menu items, TODO commands and MUSIC commands can be entered in the SELECT OPTION area. Your installation may have some restrictions on the commands allowed.

1. Schedule

This program is used for scheduling your time or the time of others (if authorized). Enter your agenda for each day then ask to see your schedule for a particular day or view a whole month at a time. Also you may view (and update if authorized) the schedule for a conference room or other items (i.e. equipment). Refer to "SCHEDULE" in *Chapter 6 - TODO Menu Items* for more information.

2. Electronic Mail <option>

This item invokes the MAIL program (Electronic Mail). Through this program you can receive or send mail to other MUSIC users and installations. Acknowledgements of your outgoing mail is listed. Formatting for the mail text is included with the program. See *Chapter 4 - Electronic Mail*.

3. Telephone Log

Keep track of your phone calls with this menu item. Current date and time is automatic when the program is invoked. Each month a new log file is created. For more information refer to the Telephone Log section of *Chapter 6 - TODO Menu Items*.

4. Calculator <calc>

This item gives you the POLYSOLVE program for calculations. See the section "Calculator" in *Chapter 6 - TODO Menu Items* for information.

5. Spell Check document <option>

This program is a full-screen Spelling Check facility. Misspelled words in your document are flagged and alternative spellings are offered. Many features are included with this program and are documented under "Spelling Check" in *Chapter 6 - TODO Menu ITEMS*.

C. Create new <filename>

This item of the menu invokes the Editor program and puts you in Input mode into an empty file for typing SCRIPT documents. An automatic Letter and Memo facility is also included with this item. Refer to the section "Creating New SCRIPT Files" in *Chapter 3 - MUSIC Editor* for entering files. Also refer to *Chapter 5 - MUSIC/SCRIPT* of this guide for formatting instructions.

R. Revise <filename>

Choosing this item brings you to Edit mode of the Editor. A copy of your *filename* is presented on the screen for you to revise (edit). Refer to *Chapter 3 - MUSIC Editor* for more information.

X. Execute SCRIPT <filename>

This item executes (runs) a SCRIPT document. To see the formatted version of your documents you need to "execute" them. SCRIPT Output Options can be entered at this time. Further details are found under the section "Executing SCRIPT Documents" in *Chapter 6 - TODO Menu Items*.

S. Submit SCRIPT <filename> <options>

Use this menu item for submitting your documents to print at remote printers. See the section "Submitting SCRIPT documents" in *Chapter 6 - TODO Menu Items* for details.

L. List File Names <options> <pattern>

Choose this item for a list of all your document names in alphabetical order. Also more information about your files is available: the size of the file, the date the file was last revised, the date the file was last referenced, and one line descriptions. Refer to the section "Library - List File Names" in *Chapter 6 - TODO Menu Items*.

M. Schedule a Meeting <options>

This item helps you to organize a meeting by: checking the schedules of attendees, conference rooms, and equipment items for free time; updating these schedules, and sending a memo to each participant. Refer to "Schedule a Meeting" in *Chapter 6 - TODO Menu Items* for information.

U. Utilities <option>

This item gives you another menu with the following items:

NAMES
PROFILE
CHANGE PASSWORD
TABLE OF CONTENTS
INDEX

Refer to *Chapter 7 - Utilities* for information.

Changing the Menu

The TODO menu can be changed by the user. New Items can be added or existing items deleted or changed. These items could call other MUSIC programs, your own programs, or other menus. Refer to the section "TMENU" in *Chapter 7 - Utilities*.

Using TODO for Word Processing

The following choices are available to perform word processing using the TODO facility.

- Create a new document file (item C)
- Revise an existing document file (item R)
- Execute the document using SCRIPT (item X)
- Submit a document for printing (item S)
- List the names of stored files (item L)

When creating a new document, you are brought to Input mode of the Editor. At this time, you can start typing in the text lines and SCRIPT control words. When you finish, you can then inform the Editor to file the new document in your library for future use.

When revising a document you are in Edit mode of the Editor. When in this mode, Editor commands (not MUSIC commands) are used to correct documents.

After a document has been created and/or revised, the Editor command "FILE" can be issued and you are brought back to the TODO menu.

To view the formatted version of a document, you need to execute it. The SCRIPT program comes into the picture at this point to interpret formatting instructions imbedded in your file. Even though the stored document (file) consists of control words and text, only the text, now formatted, is printed. Refer to "Executing a SCRIPT document" section in *Chapter 6. TODO Menu Items* for details.

DisplayWrite/370

IBM DisplayWrite/370 is a text editor that you can use to create and edit memos, letters, reports or any kind of office document. This program is an optional product of IBM and may not be available at your site.

DisplayWrite/370 shows you documents as they look when they print. While you are editing the document, you can usually see the effects of the changes you make to your document, even if they are format changes.

You can check spelling, find synonyms, get information about grammar, work with footnotes, compose your own dictionary, choose dictionaries, and work in other languages. You can also "undo" or "redo" what you have done.

To invoke DisplayWrite, issue the command:

```
DW370 filename options
```

filename is the name of the file to be edited or created and *options* are DW/370 options.

Figure 2.4 shows Displaywrite/370's basic screen presentation. This screen was displayed in *Go mode by issuing the following command:

```
dw370 dwsample
```

```
ABCD000.DWSAMPLE                                     Page 1
                                                         Line 0
===>
<---+___1___+___2___+___3___V+___4___+___5___+___6___+___7___+___
----- Page 1 -----
To:   All Staff

From:  Planning Office

Subject:  Quarterly Business Meeting

Date:   September 23, 1985

This year the Corporate Division has scheduled the Autumn Quarterly
Meeting for Friday, October 23, in Wolverhampton, U.K.  So that we
might all prepare for this important meeting, the Planning Office
has compiled the following "mini-report" on one area considered
vital to the company's growth:  international development .

We hope the report will help prepare you for some of the major
discussions scheduled to take place at the Quarterly Meeting.  You
PF 1=HELP      2=Insert      3=END      4=Instr.      5=RFind      6=Aid
```

Figure 2.4 - DisplayWrite/370 Screen Display

Usage Notes

1. The RECOVER and CLEANUP options are NOT supported under Music.
2. Only V or VB files (that have been **created** by Displaywrite/370 can be edited. To 'edit' an existing MUSIC file, you will need to create a 'NEW' file and issue the 'GET' command. Most Music files can be 'VIEWED' with Displaywrite/370.
3. If a user wishes to create their own personal CLIST file, they must first get a copy of the master CLIST file. This must be done outside of Displaywrite/370. Issue the command: COPY
\$DW2:CLIST.DW370 CLIST.DW370

To edit/change the personal CLIST, issue the command: DW370 CLIST.DW370.

4. Only 1403 type output is currently supported when using the PRINTDOC facility. The file is created for all other type devices, but currently there is no easy method of transferring the file to CMS and the Advance Printing Support Facilities that are needed to actually output the file on a real device.

References

Using Displaywrite/370 Release 2, (SH12-5172).

Displaywrite/370 Reference, (SH12-5176).

Chapter 3. MUSIC Editor

Using the MUSIC Editor

When creating or revising files you need to use the MUSIC Editor program. The Editor is a powerful interactive program that allows you to enter and change documents easily. The diagram below illustrates the order of steps taken when using the Editor.

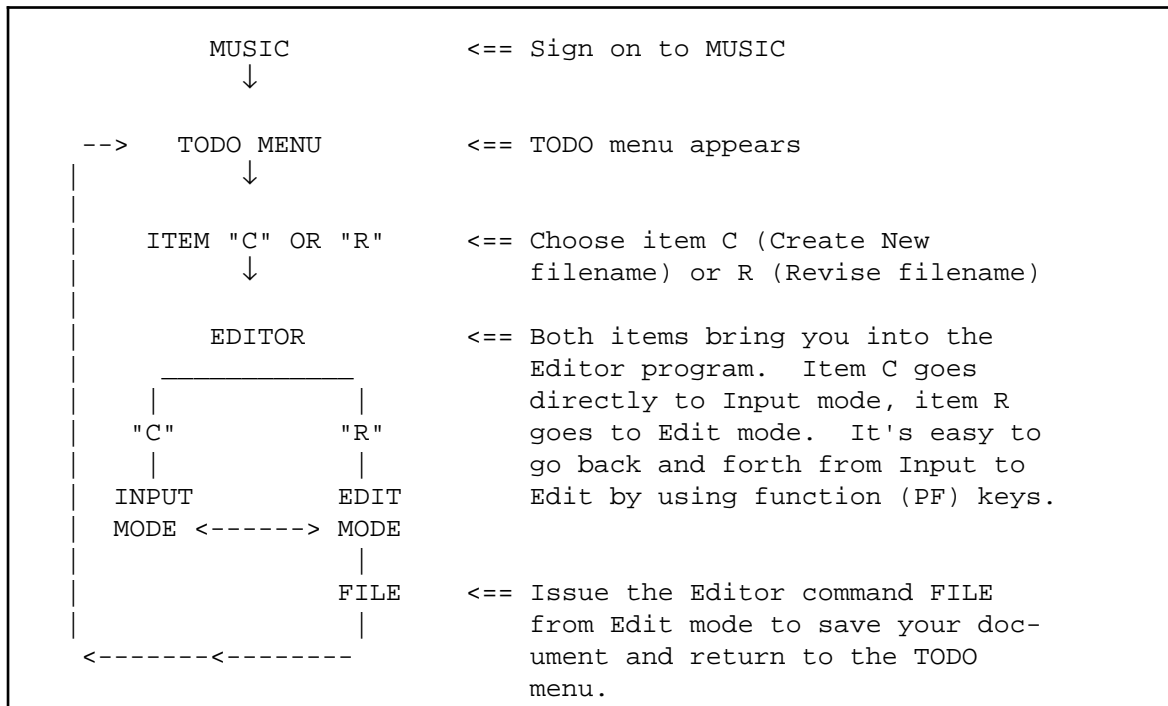


Figure 3.1 - Steps for Using the Editor

To use the Editor, choose item "C" (Create) on the TODO menu. This allows you to enter a new document. Choose item "R" (Revise) when you want to edit (change, add to, etc.) an existing document. Either item brings you into the Editor program. Once inside the Editor you can easily go back and forth between Input mode and Edit mode by using Program Function (PF) keys. If you are in Input mode then any function key will bring you into Edit mode. The F11 key will return you to Input mode. To return to the menu, issue one of the following Editor commands during Edit mode:

FILE Saves document and stores it in the MUSIC Save Library under your userid, and then returns you to the TODO menu.

QUIT Returns to the TODO menu without saving the document.

For more information about Editing, please see the section "Revising Files Using the Editor" later in this chapter.

Creating New SCRIPT Files - TODO Item C

This section outlines how you can enter information that is to be used by MUSIC/SCRIPT into the computer. The MUSIC/SCRIPT program takes the information you enter and formats it according to your instructions.

When you use the Editor to enter text into the MUSIC system, you are creating a file. SCRIPT files consist of text and control words. This file is then saved on a disk (online) or can be archived on a magnetic tape (offline) for future use.

Files on MUSIC are stored in the *Save Library*. A file can hold up to 2 million characters of information. However, your installation may have set a lower limit than this for your userid.

File Names

Each file name can be up to 17 characters in length. File names cannot contain blank 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

The "Create New" option on the TODO menu also uses predefined document shells or standard setups for writing letters and memos. These file names begin with the characters "L." and "M." You should use these characters at the start of a file name only when you wish to create a letter or a memo. Refer to "Automatic Letter and Memo Files" later in this section for more information.

Starting a New File

When the TODO menu is displayed, instruct MUSIC that you want to create a new file. Choose item "C" (Create) with a file name in the SELECT OPTION area. Figure 3.2 shows what to enter (underlined) in the command area if your new file was called "abc".

```

----- TIME, OFFICE, AND DOCUMENTATION ORGANIZER -----TODO
SELECT OPTION ==> c abc

                                     TIME: 11:49 am
1  Schedules
2  Electronic Mail <option>          1989      FEBRUARY      1989
3  Telephone Log
4  Calculator <calc>                  S    M    T    W    T    F    S
5  Spell Check document <option>      3    4    5    6    7    8    9
C  Create new <filename>              10   11   12   13   14  15   16
R  Revise <filename>                  17   18   19   20   21   22   23
X  Execute SCRIPT <filename>          24   25   26   27   28
S  Submit SCRIPT <filename> <options>
L  List File Names <options> <pattern>
M  Schedule a Meeting <options>      Day of year: 49
U  Utilities <option>

=====
F1:Help on Menu F2:Today's Reminders F3:Exit  F6:Mail Waiting F12:Retrv

```

Figure 3.2 - Selecting a Menu Item

What you are doing here is creating an empty file at your workstation. The diagram below shows the screen that the Editor program presents after the create command is issued.

```

ABC                                     L 80    W 1 72    Rec 1/0
-

-----+-----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:Uppg  8:Dwnpg  9:Locate 10:Ins ln 11:Input 12:Command

```

Figure 3.3 - Screen Display for Input Mode

You are now in Input mode of the Editor and you can begin to type in your text. (If you wish to type only capital letters use the Editor Command "TEXT UC".) For a SCRIPT document this file will consist of text and SCRIPT control words for formatting instructions. Refer to *Chapter 5 - MUSIC/SCRIPT* for details on control words. The following messages that appear on the screen are described below.

File -- ABC The name of the file is shown in the upper left hand corner.

L 80	The Logical Record Length is the maximum number of characters allowed per line. The default for MUSIC files is 80 characters.
W 1 72	Columns 1 to 72 are shown on the screen. To change the window to show columns 9 to 80 then use the WINDOW FLIP command. This command and other Editor commands are described in the next section on revising files.
Rec 1/0	The current number of records (lines) is displayed in the upper right hand corner along with the current line number (1). This file is empty so the number of lines is 0.
1-----2 etc.	This line of numbers and dashes is a scale line which shows the column numbers. (The diagram does not show the exact number of dashes.)
* Input Mode *	Indicates that you are in Input mode of the Editor. In this mode use the NEW LINE (down and to the left arrow) key to end the line. Press ENTER when the screen is filled or nearly filled. If you press an action key, such as a function key, then you leave input mode. Press F11 to return to input mode.
Reading	This message appears in the bottom right hand corner on MUSIC whenever it is waiting for instructions.
Default PFs	The Editor default definitions for function keys are displayed at the bottom of the screen. Descriptions for each function key can be found later in this chapter under the section "Action Keys".
—	This symbol is the cursor. In figure 2.3 above, it is positioned on the first line of your empty file.

You can now begin to type in your document. Use the NEW LINE key to end each line, or its equivalent, depending on the type of workstation you are using. Use the ENTER key when you have filled the screen to transmit your information to the computer. All your text moves up and there is more room for you to keep on typing in Input mode.

You can correct typing mistakes on the line you are currently typing by using the backspace key. Just backspace over the incorrect characters and retype the line from that point on. You are limited to entering 80 printed characters per line. It is a good idea not to make your input lines are not too long in case you might want to add on to them later. It is also a good idea to start each new sentence on a new line. This will make your editing easier later on. Don't worry if your document doesn't look lined up as you are typing it in. SCRIPT will do all the formatting later.

Also, remember to use the "1" (one) and "0" (zero) keys for the numeric one and zero, not the "L" (el) and "O" (oh), the alphabetic letters.

Note: You can use SCRIPT to format a SCRIPT file from the TODO menu by using the X item. This item executes a file coded with formatting instructions. Select the menu item X (Execute SCRIPT <file-name>) along with the name of the file you want to format. You will be prompted to enter SCRIPT output options. Refer to the section on "Executing SCRIPT Documents" in *Chapter 6 - TODO Menu Items* for details.

If you are not using the TODO menu system, you can execute SCRIPT by including the following instruction as the first line in your text file:

```
/include script
```

The second line in your text file must then include either SCRIPT output options or be blank. Refer

to Appendix B for an example.

Saving a File

You will, no doubt, want to FILE (save) your document after you finish entering the text and control words. This means the computer will keep it for you as long as you want. To do this, you must first go to Edit mode of the Editor, by pressing the Program Function (PF) key numbered 12. (function keys are described in the topic "Action Keys" later in this chapter.) The computer responds by moving your cursor to the COMMAND area and the *Input Mode* message at the bottom of the screen disappears indicating that the Editor is in Edit mode. This is the mode in which you can make changes to your file and, as in this case, save your file. Figure 3.4 below illustrates the screen format for Edit mode after the file ABC has been typed in and F12 has been pressed.

Complete information about the screen format is given with figure 2.6 under the topic "Screen Format" later in this chapter.

```
userid:ABC                                L 80   W 1 72   Rec 1/7
  *Top of File
    This is a short sample of a SCRIPT document
    without using any control words.
    Each input line should be short (don't go to the end
    of the line.
--> Start new sentences on a new line.
  *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:Uppg  8:Dwnpg  9:Locate 10:Ins ln 11:Input 12:Command
```

Figure 3.4 - Screen Display for Edit Mode

The information displayed on the top of the screen remains the same for Input or Edit 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. The line pointer points to the first line at the beginning of an edit session. |
| *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 (not MUSIC commands). To get the cursor to this area use F12 use the NEW LINE key or TAB key. (Function keys are described in the topic "Action Keys" in the section Editing with Full-Screen Mode. |

Once the cursor is in the command area, you can type the Editor command "FILE" in the command area to store your document. This document is now stored in the MUSIC Save Library under your userid. The Editor saves the document using the name specified on the top of the screen (Figure 3.4). After you type in the command, the system responds with a message assuring you that the document has been saved under the

name that you have provided.

```
ABC
NEW FILE
SAVED
```

Then you return to the TODO main menu. 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 document with the same name as the file you are working with. Answer no and re-issue the FILE command with another name. Example:

```
COMMAND: FILE newname
```

Changing an Existing File

You can easily make changes to an existing file. This is described in the next section on Revising files.

Purging a File

When you return to the TODO main menu, you can select items on the menu or you can type MUSIC commands. Besides choosing the menu items, you can do other common tasks such as purging a file. To delete a file from your save library enter:

```
SELECT OPTION ==> /PURGE filename
```

Refer to the previous section on "MUSIC Commands" in *Chapter 1 - Introduction* for more information about other commands.

Automatic Letter and Memo Files

The CREATE (item "C") function uses the file name to determine the type of file you are creating. This item can prepare a standard setup (shell) for either a letter or a memo. All you have to do is fill in the details.

If your file name begins with "L.", then CREATE automatically gives you the setup for a letter. If your file name begins with "M.", then you receive the setup for a memo. If your file name does not begin with L. or M. then the Editor presents an empty file. See the section "Automatic Letters and Memos" in *Chapter 5 - MUSIC/SCRIPT*, for information about letter and memo setups.

Revising Files Using the Editor - TODO Item R

The MUSIC Editor is used to make modifications to MUSIC files (as well as creating new files). These files may be SCRIPT documents or they may contain other information such as a program. (For details on SCRIPT see Chapter 5.)

A key feature of the Editor is its ability to search for a line based on its contents rather than its line number. Changes can be made to portions of the line without having to retype it completely. The same change can be done to multiple lines with a single command (global changes).

The Editor makes all requested changes to a **temporary** copy of your file while the original copy is left intact. This means that you see the effect of all your changes without disturbing the original copy. Once you are satisfied with the changes you can tell the Editor to apply them to the original by issuing the Editor Command FILE.

Besides changing lines, the Editor can be used to rearrange a file by moving or copying groups of lines. Completely new lines may be inserted at any location and the contents of another file can be merged into the file being edited.

The Editor is fully described in the *MUSIC/SP User's Reference Guide*. A summary of the basic concepts and the more common commands are explained in this manual.

Starting the Editor

To edit an existing file, choose the "R" (Revise) item from the TODO main menu, along with the file name. If you had a file with the name "sample" then you would type the following (which is underlined) and press ENTER.

```
SELECT OPTION ==> r sample
```

The following diagram illustrates what the screen would look like after entering the command above.

```
userid:SAMPLE                                L 80   W 1 72   Rec 1/7
  *Top of file
-->   This is an example of a SCRIPT document which
      is very short and contains only a few lines.
      If your document consists of many pages then you do
      not see the "End of File" message on the first screen
      as illustrated here.
  *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
              7:Uppg  8:Dwnpg  9:Locate 10:Ins ln 11:Input 12:Command
```

Figure 3.5 - Screen Display for Editing a File Called Sample

When you issue the Revise command the Editor presents a copy of your original file on the screen. You are now in Edit mode of the Editor and you are positioned at the beginning of the file. The line pointer points to the first line of your document and the cursor is in the Command Area. At this point you can make changes to your file by either:

- Moving the cursor to replace, delete, or insert text on a line.
- Typing in an Editor command in the command area.
- Pressing a function key.

The Editor has a current line pointer which points to one line in your file. At the beginning of an edit session the current line is the first line in the file. Several commands can move you to a new place in the file. Editor commands can be typed in the command area or they can be issued by pressing a function key.

Multiple Commands per Line

You can combine several Editor commands on a single line if you use a ";" character between them. You will find this very useful, particularly after you become familiar with the Editor. This *delimiter* character of ";" does, however, mean that you must never use it in any other way in the command area.

You can use a DELIM command to change the delimiter character for that edit session. For example, the command "delim #" changes the delimiter character to "#". Or you can use just the command "DELIM" by itself which informs the Editor that there is no delimiter defined.

Editor Full-Screen Mode

Introduction

Users of 3270-type workstations can take advantage of the special features of these workstations by using the MUSIC Editor in *full-screen* mode of operation.

In full-screen mode, you can modify data directly on the screen, using the local editing keys, as well as enter commands in an area near the bottom of the screen. Also, various editing operations can be done by pressing program function (PF) keys to enter Editor commands.

Screen Format

The screen display in full-screen mode is divided into the following areas:

```
1  userid:TRY.IT                      L 80   W 1 72      Rec 1/5
   --> *Top of file
       /include script
       Text files are easily created and formatted with
       the MUSIC/SP SCRIPT word processing facility.
       And, files are easily and quickly modified using
2  the Editor facility with Editor commands, function keys,
       and the INSERT and DELETE keys.
       *End of file

3  -----T--1-----2-----3--. . . 5-----6-----7--
4  Command: _
5
6  Default PFs: 1:Help 2:Split 3:Quit   4:Mark   5:Center 6:Del
7  *EDIT*      7:Uppg 8:Dwnpg 9:Locate 10:Ins line 11:Input 12:Cmd
```

Figure 3.6 - Screen Format for the Editor

1. **Title line:** this is the first line on the screen, and contains the name of the file being edited, the line number of the current line, the file's logical record length (L), the starting and ending window columns (W), the current line, and the total number of lines in the file. This field is not modifiable on the screen, although Editor commands can be used to change the file name and window setting.
2. **Lines of the file:** this is the main body of the screen, immediately following the title line. It may be up to 20 lines on a 24-line screen, or 39 lines on a 43-line screen. Each screen line displays one record of the file, and the text is directly modifiable on the screen. The records displayed include the current line and the lines immediately preceding and following it. Only the window portion of each record (see the WINDOW command) is displayed, to a maximum of 72 characters. The current line is indicated by an

arrow pointer in the left margin and is also displayed in high intensity (red on a color terminal). If line numbering is in effect (the NUMBER command), line numbers are displayed in the left margin. The beginning of the file, if displayed, is indicated by `*Top of file`. Similarly the end of the file is indicated by `*End of file`. In Input mode, several empty lines are displayed following the current line, thus allowing you to add new lines to the file by typing them on the screen.

3. **Tab line:** this shows column numbers and input tab positions. The tab positions (displayed as T's) correspond to the column numbers specified on the TABIN command. The tab positions are relative to the starting window column, rather than to column 1 of the file's records.
 4. **Command area:** this is used for entering Editor commands. All of the usual commands are valid here, including the NOFS command if you wish to terminate full-screen mode (but continue editing). Several commands may be entered by separating them by the command delimiter character, normally semicolon (;). If the Editor is in Input mode rather than command (Edit) mode, the command area is replaced by the centered message `* Input Mode *`.
 5. **Message area:** this line of the screen is reserved for messages from the Editor. Up to 3 messages can be packed into this area. The messages are displayed in high intensity (white on a color terminal). If the messages do not fit, or if considerable output is generated by a command such as LIST or SCAN, the output is displayed on a new screen in normal MUSIC format, with the status message `More...` in the bottom right corner. Pressing the ENTER key allows output to continue on the next screen, or returns to the Editor full-screen display if no more output remains. Editor commands may not be entered until the `More...` condition has been cleared. While output is being displayed in normal MUSIC format, the PA1 key may be used to go to attention mode (`**Attn**`) and skip output (by the /SKIP command).
 6. **Status indicator:** the current status of the workstation and the Editor is shown in the bottom right-hand corner of the screen. Possible status words are `Reading`, `Working`, `**Attn**`, and `More...`.
 7. **SHOW area:** if a "SHOW filename" command has been used, lines of the specified file are permanently displayed at the very bottom of the screen. This area can be from 0 to 12 lines. The message, command area, and tab lines described above are shifted up on the screen to make room for the SHOW area. For example, the area could be used to display the definitions of program function (PF) keys. Refer to the SHOW command for more information.
- > **Line Pointer:** The line pointer is indicated by an arrow in the left margin. It always points to the current line. Commands entered in the command area will take affect at this point in your file. Some users may have PREFIX ON as the default for their editor. The prefix area is in the left margin and the line pointer is smaller. The screen display is slightly different:

```

==== *Top of file
>==== /include script
==== Text files are easily...

```

The editor works the same except you are able to use prefix commands in the margin.

Important Keys

The diagram below shows the important keys on a workstation needed for editing files.

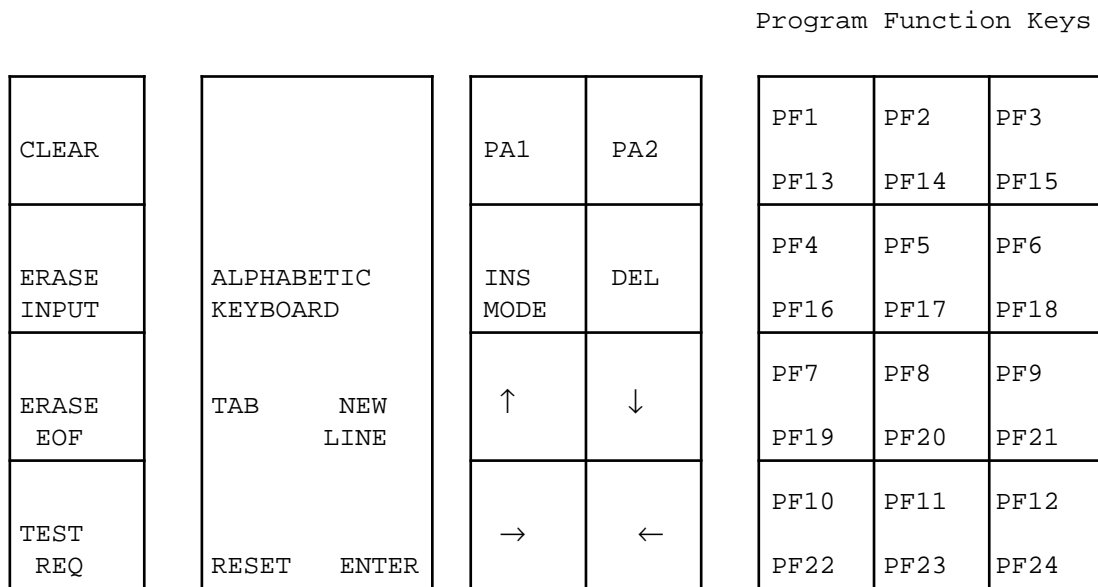


Figure 3.7 - Keys for Editing

Local Editing Keys

A 3270-type workstation stores in its own memory the lines displayed on the screen. Changes can be made to these lines without interacting with the computer by using local editing keys. These keys and their functions are described in the following table.

<u>Key</u>	<u>Function</u>
DEL	Deletes one character at the current cursor position
ERASE EOF	Erases remainder of line from current cursor position
INS MODE	Allows for insertion of characters at the current cursor position. Note that the RESET key terminates INS MODE.
RESET	Cancels INS MODE and/or the INPUT INHIBITED condition. This key is on the bottom left-hand corner of the alphabetic keyboard.

In addition, characters can be replaced by first positioning the cursor at their location and then typing over them. The cursor position can be changed by using the various arrow keys on the keyboard.

Changes made with local editing keys are only transferred to the Editor's temporary copy of the file when a Program Function key or the ENTER key is pressed. (Program Function Keys, are action keys and are described below.

If you inadvertently make unwanted changes when using local editing keys, the CLEAR key cancels the effect of all screen changes made since the last action key was pressed.

As mentioned above, changes made to the Editor's temporary copy of the file are only transferred to the permanent copy when a SAVE or FILE command is typed in.

Action Keys

The keys which cause an interaction with the system are referred to as *action keys*. They are ENTER, the program function keys F1 to F24, CLEAR, PA1, PA2, and SYS RQ (or TEST REQ).

The screen cursor may be used to move the current line pointer. Simply use the arrow keys to place the cursor at the desired new current line. That line becomes the new current line before any command area commands or function key operations are done. Of course, a command or function key operation may further move the pointer. Positioning the cursor at the *Top of file line is equivalent to a TOP command. Positioning it at the *End of file line is equivalent to a BOTTOM command.

The following describes the default definitions of the action keys. It is possible for your private EDITOR file or the system *COM:EDITOR file to change the definitions of the program function keys. Enter the command SHOW PF to see the actual function key definitions in effect for your edit session.

<u>Key</u>	<u>Function</u>
ENTER	This key transmits screen changes, input lines, and commands to the system. It can also be used to advance to the next screen when <code>More...</code> appears in the bottom right corner. If no other keys were pressed since the last action key, ENTER moves the cursor to the current line (if the Editor is in command mode) or terminates Input mode (if the Editor is in Input mode).
F1	(HELP) provides information about how to use the Editor. You are presented with a list of topics and are asked to enter the number(s) of the topic(s) you want more information about.
F2	(SPLIT) splits a line into two lines. The character at which the cursor is positioned becomes the first character of the second line.
F3	(QUIT) terminates the Editor session without performing any save operation. If you have made changes to the file but have not issued a SAVE command to make the changes permanent, you will be prompted for permission to end the edit session. Enter YES or Y to end the session, or NO or N to cancel the QUIT operation and continue editing.
F4	(MARK) is used to designate (mark) a line or group of lines. To mark a group of lines, mark the first and last line of the group. The marked group can be used by commands such as MOVE., COPY., DELETE., and STORE. Marked lines are displayed with a vertical bar character in the left margin of the screen.
F5	(CENTER) causes the screen to be redisplayed so that the current line (or the one containing the cursor when the PF key is pressed) appears in the middle of the screen display. The screen display is shifted the appropriate number of lines up or down in the file in order to center the current line. The UPWINDOW and DOWNWINDOW commands perform a similar function.
F6	(DELETE) removes the current line from the file. Note that if the cursor points to a line on the screen when the PF key is pressed, that line is the one which is deleted. This is because the current line pointer is moved to the cursor before the PF request is done. The same applies to the other PF keys. To delete a line, position the cursor to it and press PF6.
F7	(UPPAGE) displays the previous page (screen) in the file (towards the beginning of the file).
F8	(DOWNPAGE) displays the next page (screen) in the file (towards the end of the file).

- F9 (LOCATE) locates the next occurrence of the character string used on the last LOCATE, SEARCH, FIND, HUNT, UPLOCATE, or UPFIND command. The search starts at the line following the current line. If the CURSOR LOCATE command is in effect, the cursor will be positioned at the start of the found string when the screen is displayed.
- F10 (INSERT) inserts a blank (null) line after the current line. This is useful for adding a single line to the file. You can type the line over the inserted blanks.
- F11 (INPUT FLIP) puts the Editor into Input mode. This is useful for entering several lines after the current line. In Input mode, the screen displays the current line and a few lines above it, followed by null lines in the remainder of the screen. The user types over these lines in order to enter the new lines. The NEW LINE local key is used to go to the next line. If more space is needed, press the ENTER key. If the Editor is already in input mode, PF11 terminates Input mode. In this way, PF11 *flips* back and forth between Input and command mode.
- F12 (CMDPFK) moves the cursor to the command area. This is necessary for entering Editor commands that are not provided for by PF keys. The arrow keys may also be used to place the cursor in the command area prior to entering commands. PF12 and 24 also terminate Input mode. The Editor command corresponding to this PF operation is CMDPFK.
- PA1 Not normally used. Refer to the description of the screen message area (above) and the S option on the SCAN and CHANGE commands (below) for more information.
- PA2 This key is used for multi-session control. It adds or deletes a MUSIC/SP session, or switches to the previous or next session.

Note: Make sure you have pressed ENTER or one of the PF keys before pressing PA2. Otherwise any screen changes you have entered since the last action key are lost. If you press PA2 by mistake and do not wish to go to another session, press the ENTER key.

- CLEAR Cancels the effect of any screen changes made since the last action key was pressed, redisplay the current screen, and places the cursor in the command area. Input mode is terminated if it was in effect.

SYS RQ

- TEST REQ This key is normally not used. It has the same effect as the CLEAR key, except that the workstation is placed into MUSIC attention mode. You may then enter an attention mode command (such as /TIME) or a blank line. The Editor eventually redisplay the original screen (you may need to press the ENTER key). Use of the TEST REQ key may be prohibited or restricted by the system environment.

Other action keys should not be used.

The ERASE INPUT key should not be used either. It cancels all screen changes made since the last action key was pressed and erases the screen display. If you hit the ERASE INPUT key by mistake, press CLEAR to redisplay the screen.

After pressing an action key, the INPUT INHIBITED indicator is on briefly while the system processes the request. On 3277 terminals, INPUT INHIBITED is indicated by a bright square at the right of the screen. On newer models of workstations, it is indicated by a large X at the bottom of the screen. If INPUT INHIBITED comes on before an action key is pressed, it means that you have tried to modify a protected part of the screen; press the RESET key to continue.

Order of Operations

It is possible to combine several operations at the workstation before pressing an action key. Operations are done by the system in the following order:

1. Changes made to text on the screen.
2. Movement of the current line pointer to the line indicated by the cursor.
3. Command-area commands.
4. Program function key operation.

Note that the cursor must be placed into the command area before typing an Editor command. The cursor can be positioned by using any of the arrow keys. It can also be put into the command area by using the F12 key.

If the Editor is in Input mode when a function key is used (standard or user-defined), Input mode is terminated before the function key request is done.

Retrieving the Previous Command Line

To retrieve the previous command line entered in the command area, place the cursor at the tab line before pressing an action key. This redisplayes the last non-blank text entered in the command area. You may then modify and re-issue the command, or the command may be re-issued (as is) by simply pressing the ENTER key.

Defining Function Keys and the X Command

Users editing in full-screen mode on 3270-type workstations may customize the operation of the program function (PF) keys. This is done by the DEFINE Editor command, which defines a function key as equivalent to any string of Editor commands. Any function keys defined in this way override the standard default function key definitions.

Note: It is possible that your installation has changed the standard default function key assignments, in which case the function definitions described above may not be accurate. You can check this by entering the command SHOW PF.

For workstations that have no function keys or equivalents use the DEFINE command to make the X command equivalent to a string of Editor commands. Then typing the command X causes the specified sequence of commands to be executed. Also, the Xn command (where *n* is a number from 1 to 24) can be used on any type of workstation to execute the command string defined for PF_n.

Format:

```
DEFINE PFn  commands
X
```

n is the program function key number (1 to 24). *commands* are a string of 1 or more Editor commands, separated by the command delimiter character (normally semicolon, ";"). The DEFINE command must be the only command on the input line. An X command string must not contain an X command.

If the command string is omitted, the function key or X command is made undefined.

The abbreviation DEF may be used for DEFINE.

Create Your Own EDITOR

If you wish you can create your own Editor file to define function keys in a more permanent fashion. The file must be called "Editor" and the first line in this file must be:

```
/INCLUDE *COM:EDITOR
```

The following is an example of a file which contains function key definitions that can be used for your own private Editor. These definitions are recommended for word processing applications.

```
/INC *COM:EDITOR
def pf18 unmark
def pf19 del.
def pf20 move.
def pf21 copy.
```

Figure 3.8 - Sample Editor File

The command SHOW MYPFK permanently displays the contents of file MYPFK at the bottom of the screen. This file could indicate your function key definitions, as a reminder during the edit session.

The SHOW command is used to display the current definition of function keys or the X command: SHOW PF_n, SHOW PF, or SHOW X.

Using Full-Screen Mode Without Function Keys

If you wish to use full-screen mode with a 3270-type workstation which does not have any program function keys, use the command FS NOPFK. This causes the Editor to put the cursor in the command area whenever the screen is displayed, thus facilitating the entry of commands. To move the cursor to the current line, leave the command area null and press the ENTER key, or simply use the arrow keys.

In addition, the commands UPWINDOW, DOWNWINDOW, UPPAGE and DOWNPAGE may be used in place of function key operations.

Simulating Additional Function Keys

It is possible to make use of all 24 PF key operations even if your terminal only has keys for PF1 to 12. The extra keys for PF13 to 24 are simulated by placing the cursor into the left-hand margin of the screen, one column to the left of a screen line or the command area, and then pressing the corresponding PF key (1 to 12). The Editor detects the special cursor position, and simulates the appropriate PF key (it adds 12 to the number).

In this way, the LEFT ARROW (<--) key acts somewhat like a *shift* key for the PF keys. (If you are NET3270 then SHIFT-F1 to SHIFT-F12 correspond to F13 - F24.)

The special cursor position is screen column 4 (without line numbers) or column 7 (with line numbers) for a

line of the file, and is column 9 for the command area line.

If the cursor is in the margin column when a real PF13 to 24 is pressed, then the Editor will simulate the corresponding PF1 to 12 key (it subtracts 12 from the number).

Blank-Filled Screen Display

Normally, when the screen is displayed, blanks at the end of each field (i.e. each line of the screen) are replaced by null characters. This allows easy use of the INS MODE key for inserting characters in the middle of a line. When adding characters to the end of a line, be careful to use the space bar to enter blanks, rather than the arrow keys, since null characters are not transmitted to the Editor.

However, for some applications such as entering tables or diagrams, it is more convenient to have trailing blanks retained. This is requested by using the FILL command. If the INS MODE key must be used when FILL is in effect, first use the ERASE EOF key to remove trailing blanks from the field. The NOFILL command reverts to the normal method of display.

An alternate name for the FILL command is NONULLS; an alternate name for the NOFILL command is NULLS. The command NULLS FLIP reverses the NULLS setting.

FILL (or NONULLS) mode is indicated by the ")" character at the end of the tab line.

Output Cursor Positioning

When the Editor displays the screen, it normally puts the cursor at the first position of the current line or the command area. However, commands such as CURSOR, LOCATE and SPLIT can cause the cursor to be displayed at a different position in the current line.

The CURSOR command controls output cursor placement:

```
CURSOR LOCATE
CU      NOLOCATE
        n
        n TEMP
        END
```

n is a number from 1 to 72. It is a column position number relative to the start of the screen field for the current line. 1 refers to the first character of the field, 2 to the second character, etc.

CURSOR LOCATE places the cursor at the start of the found string after any of the commands: LOCATE, UPLOCATE, FIND, UPFIND, SEARCH, HUNT. CURSOR NOLOCATE cancels this option. You can put a CURSOR LOCATE command into your private EDITOR file to make this option the default for all your edits. Abbreviations are LOC, NOLOC.

"CURSOR *n*" places the cursor at the specified column position whenever the cursor is not put out in the command area, provided a command such as LOCATE or SPLIT or CURSOR END or "CURSOR *n* TEMP" does not result in a different placement. This stays in effect for the remainder of the edit. To cancel the effect of this command, use CURSOR 1.

"CURSOR *n* TEMP" places the cursor at position *n* in the screen field for the current line, but only for the next screen display. Abbreviation T may be used for TEMP, as in CU 15 T. This command is intended mainly for function key definitions. For example, DEFINE PF1 INSERT ABC---XYZ;CURSOR 4 TEMP.

CURSOR END is similar to "CURSOR n TEMP", except that the cursor is placed after the last nonblank character in the field.

RIGHT and LEFT Options on the WINDOW Command

The option RIGHT or LEFT may be used on the WINDOW command to shift the window towards the right or left hand side of the records being edited. The width of the window is not changed. Optionally, the number of columns for the shift may be specified. Also, the FLIP option can be used to shift the window to the extreme left or right, whichever is further from the existing window setting. These options may be used whether or not full-screen mode is in effect. The format of the commands is:

```
WINDOW RIGHT
```

```
WINDOW RIGHT n
```

```
WINDOW LEFT
```

```
WINDOW LEFT n
```

```
WINDOW FLIP
```

The parameter *n* is the number of columns by which the window is to be shifted. If *n* is omitted, the window is shifted by the maximum amount. RIGHT and LEFT may be abbreviated R and L. WINDOW FLIP shifts the window to the extreme opposite side.

When a WINDOW command is used in full-screen mode, the zone is automatically set to be from column 1 to the end of the window (refer to the ZONE command). So remember that if you have used a command such as ZONE 80, you must re-issue it after shifting the window left or right, otherwise the zone may be reset to 72. The ZONE setting affects which columns are changed by the CHANGE command.

Example: Assume the length of the records being edited is 80, and the current window is columns 1 to 72. Then "WINDOW RIGHT 2" results in a new window setting of 3, 74. WINDOW RIGHT or WINDOW FLIP results in a window setting of 9, 80.

Suggestions for Efficient use of Full-Screen Mode

- If your 3270-type workstation has more than 12 function keys, set up a private EDITOR file to define extra function key operations in addition to (or in place of) the standard ones. Using function keys is faster and easier than typing commands. Good candidates for function key operations are the commands: MOVE., COPY., DELETE, DELETE., WINDOW FLIP, JOIN, TOP, BOTTOM, DUP, UPLOCATE, MINSERT, MDELETE, UPWINDOW, DOWNWINDOW, FILE, ECHO, CURSOR END, CURSOR n TEMP, NULLS FLIP, NUMBER FLIP, SUBMIT.
- It is more efficient to use the NEW LINE key or TAB key after each line in input mode. The NEW LINE key has a *down and to the left* arrow on it, and is located on the right-hand side of the alphabetic keyboard. This gives much better response in Input mode, since no system interaction is required (NEW LINE and TAB are local keys). Once the screen is full or nearly full with input lines, press the ENTER key to get a fresh screen. Outside of Input mode, the NEW LINE or TAB key is often quicker than the command function key (F12) for positioning the cursor in the command area. For NET3270, the NEW LINE key is Ctrl-Enter, or the * on the right-hand keypad.
- When you know that you will be typing a command in the command area (rather than making a change

on the screen), end the previous action by using the command function key (F12) instead of the ENTER key. This ensures that the cursor will be positioned in the command area, and may eliminate one interaction with the system.

- Several Editor commands can be entered in the command area by separating them by a semicolon (;). This technique can really speed up editing, but use it carefully, since an error on one of the commands does not stop execution of the remaining commands.

Marking a Group of Lines

When editing a file, the need often arises to define a set of consecutive lines within the file, and then perform some operation on those lines. Examples of this are moving or copying a group of lines from one part of the file to another, restricting a global change to a section of the file, converting a set of lines to upper case, and deleting a group of lines.

The MARK command and the *dot* forms of commands such as MOVE, COPY and CHANGE, provide this capability in the MUSIC Editor. Use of marked groups greatly reduces the need for line numbers while editing.

To define a group of lines, the user moves the line pointer to the first line of the group and issues the MARK command, then moves the pointer to the last line of the group and issues the MARK command again. Once the group has been defined, it can be referred to in various commands by using a period (.) as a parameter. For example, the command CHANGE/ABC/DEF/.G changes every occurrence of ABC to DEF within the group. The commands MOVE. and COPY. move and copy the group. These and other "." commands are described below.

Although the MARK command and the various . commands can be used on any type of workstation, they are best suited to full-screen mode on a 3270-type workstation. In full-screen mode, each line of a marked group is identified by a vertical bar in the left margin on the screen. The user's private EDITOR file would define a program function key as MARK, and probably two other keys as MOVE. and COPY..

Some Notes on the MARK Command

Only one set of consecutive lines can be marked at a time. The marked group is maintained until a new group is defined, or until an UNMARK command is issued, or until all the lines of the group are deleted. As new lines are added to or deleted from the file, the marks are adjusted accordingly. The command MARK ? reports which lines are currently marked. The blank between MARK and ? may be omitted. Abbreviations for the MARK and UNMARK commands are MA and UNMA.

When defining a group, the first and last lines may be marked in either order. The group may consist of only one line, in which case the second MARK command is not needed. Once a multi-line group has been marked, or a 1-line group has been marked and used in a . command, a subsequent MARK command starts a new group.

Commands for Operating on a Marked Group

In these commands, the . character is a command parameter, and the blank between it and the command name may be omitted. Also, the command name may be abbreviated, as in MO., CO., and DEL..

- = . Moves the current line pointer to the first line of the group. This is handy for returning to a particular point in the file. The command is usually entered as =. to save typing.

MOVE .	Moves the marked group of lines to after the current line. The group remains marked. For example, if lines 51 through 75 are marked and the current line is 20, then MOVE. is equivalent to MOVE 20 51 75
COPY .	Copies the marked group of lines to after the current line. The original group remains marked.
DELETE .	Deletes the marked group. Note that the MDELETE command is another (sometimes faster) way of deleting a block of lines. The operation may be qualified by a logical expression as the second parameter, as in DEL.,(NOT/ABC/), which deletes all lines of the group which do not contain ABC.
CHANGE	A period (.) can be used in place of the <i>n</i> (line count) option on a CHANGE or logical CHANGE (CHANGEL) command. This causes the change to apply to each line of the marked group (subject to the logical expression, if CHANGEL is used). The Editor automatically goes to the first line of the group before starting the change. Example: C/ABC/DEF/.F
REPEAT .	Causes the next BLANK or OVERLAY command to apply to each line of the marked group. It also moves the current pointer to the first line of the group, and places the screen cursor into the command area.
TOUC . TOLC .	Converts the marked group to upper or lower case.
COPYCOL n1 n2 n3 .	When . is used as the 4th parameter, instead of a line count, the COPYCOL operation is applied to each line of the marked group.
STORE name [APPEND]	Writes the marked lines to the specified file.

Workstations unable to use Full-Screen mode

For ASCII-type (TTY) terminals, a question mark (?), automatically used as the prompt character, is displayed each time the Editor expects the user to type a line. This avoids the problem of the user starting to type before the workstation is ready to accept input. If desired, prompting may be removed by typing 'prompt' without a parameter. On an IBM 2741, the keyboard locks when the Editor is working.

The Editor has a special *screen mode* operation, intended mainly for display terminals. 3270-type terminals have screen mode but also have *full-screen mode* which has been described previously. In screen mode, the current line is displayed in the upper part of the screen, along with several preceding and following lines of the file. The current line is surrounded by lines of equal signs (=) and the number of the current line appears near the end of the first equals sign line.

This *window* is re-displayed whenever changes are made to the file. When the Editor starts, screen mode is on for 3270-type workstations. It may be turned off with the command NOSCREEN.

For some workstations, "screen mode" is off at the start of an editing session, but can be turned on by using the command SCREEN.

The number of lines to be displayed can be adjusted by specifying a number on the SCREEN command. The default is 15.

Editor Commands - Overview

This section discusses the most commonly used Editor commands. However, when a specific problem or need arises, you may consult the *MUSIC/SP User's Reference Guide* where a more complete discussion of the Editor and its commands can be found.

If you are working from a 3270-type workstation with full-screen mode, you can use the function keys and local editing keys instead of many of the Editor commands listed below. Full-screen mode was described previously in this chapter.

Obtaining Editor Help

The HELP command is used to obtain information about a particular Editor command, or about the Editor in general. Type HELP in the command area of the Editor.

HELP without a parameter gives general information about the Editor, such as a one-line description of common commands.

"HELP name", where *name* is the full name of an Editor command, display information about the command. If only selected information is desired, one or more topics may be specified after the command name, "HELP name list-of-topics".

Functional Summary of Commands

The following is a complete list of all the Editor commands broken down into groups by function. If an asterisk (*) appears beside the Editor command, it indicates that this command is not described in this guide. These commands are infrequently used and are described in the *MUSIC/SP User's Reference Guide*.

Moving the line pointer

TOP	Move the pointer to the first line of the file.
BOTTOM	Move the pointer to after the last line of the file.
LAST	Move the pointer to the last line of the file.
UP	Move the pointer towards the beginning of the file.
NEXT	Move the pointer towards the end of the file.
LOCATE	Locate the next line containing a specified character string.
ULOCATE	(Upward LOCATE) Move towards the top, looking for a string.
XL	Macro to locate a specified string without moving the current line pointer if the string is not found.
* LOCATEL	Locate the next line which tests true against a logical expression.
FIND	Same as LOCATE, except the string must start in column 1.
UFIND	(Upward FIND) Same as ULOCATE, but string in column 1.
SEARCH	Same as LOCATE, except start at the top of the file.
* SEARCHL	Same as LOCATEL, except start at the top of the file.
HUNT	Same as FIND, except start at the top of the file.
=n	Move the pointer to line number <i>n</i> (type "HELP =" for info).

Displaying lines

PRINT	Display a number of lines, starting with the current line.
LIST	Display the file being edited, or an external file.
*SCAN	Display all lines containing a specified character string.
NUMBER	Turn line numbering on.
NONUMBER	Turn line numbering off.
WINDOW	Define starting and ending columns to be displayed.

Making changes to the file

CHANGE	Make a change to a line or group of lines.
*CHANGEL	Make a change to a line or group of lines.
ADD	Add text to the end of a line.
REPLACE	Replace an entire line.
DELETE	Delete the current line from the file.
*DELETTEL	Delete a group of lines from the file.
*MDELETE	Delete MINSERT unused lines or a group of lines.
*UNDELETE	Inserts the line deleted by previous DELETE 1 command.
INSERT	Add a new line following the current line.
*MINSERT	Add a group of new lines following the current line.
INPUT	Begin INPUT mode, to add lines to the file.
DUP	Duplicate the current line a no. of times.
MERGE	Bring a copy of an external file into the file being edited.
MOVE	Move lines from one place to another within the file.
COPY	Copy lines from one place to another within the file.
*COPYCOL	Copy text from one part of a line (or lines) to another part.
*REPEAT	Specify the no. of times to repeat the next BLANK or OVERLAY.
*BLANK	Set specified characters of a line to blanks.
*OVERLAY	Overlay part of a line with new characters.
SPLIT	Break the current line into two lines.
JOIN	Join the next line to the end of the current line.
SORT	This macro uses the MUSIC SORT command to sort part or all of the file.
UNSORT	This macro undoes the effect of the SORT macro.
SPELL	This macro uses the SPELL program to spell check your file.
FORMAT	This macro formats text using the SCRIPT program.
UNFORMAT	This macro undoes the effect of the FORMAT macro.

Getting information

HELP	Request information about the Editor or an Editor command.
=	Get the line number of the current line.
*SIZE	Get the total number of lines in the file.
NAME	Display or set the file name for the edit session.
TAG	Display or set the tag string of the file being edited.
*TIME	Display time of day, date, cpu time, and number of users.
*USERS	Same as TIME.
SHOW	Display function key or X command definitions; display from a file.
NOSHOW	Remove text displayed by SHOW command.
*ATTRIB	Get information (attributes) about a file.
*SPACE	Get Save Library space information for your userid.

Ending the edit

QUIT	Terminate the edit without saving the file.
* END	Same as QUIT.
* QQUIT	(Quick quit) terminates without any messages or prompting.
* OFF	Same as QUIT, but also terminates the MUSIC session.
FILE	Store the changed file in place of the original file.
EXECUTE	Store the file (as in FILE command) and then execute it.
* RUN	Same as EXECUTE, except use the MUSIC input file (/INPUT).
SAVE	Similar to FILE, but do not terminate the edit.

Full-Screen Mode

* FS	Start full-screen mode (for 3270-type workstations).
* NOFS	End full-screen mode.
* FILL	Put blanks at the end of each screen field.
* NOFILL	Put nulls at the end of each screen field (the default).
DEFINE	Define a program function (PF) key or the X command.
* ECHO	Cause information to be displayed in the command area.
UPWINDOW	Shift the screen display towards the beginning of the file.
DOWNWINDOW	Shift the screen display towards the end of the file.
UPPAGE	Shift the screen display 1 screen towards the beginning of the file.
DOWNPAGE	Shift the screen display 1 screen towards the end of the file.
CMDPFK	Cause the cursor to be put into the command area.
CENTER	Center the current line in the middle of the screen.
CURSOR	Control the placement of the cursor on the screen.

Other commands

* AIN	Terminate hexadecimal input mode.
* ALPHA	Terminate hexadecimal output mode.
* ARROW	Use arrow pointer in ASCII screen mode.
* NOARROW	Do not use arrow pointer in ASCII screen mode.
* BOTH	Obtain output in both hexadecimal and character form.
* BRIEF	Stop automatic verification (displaying) of file changes.
* CALC	Macro to evaluate a REXX expression, in particular, calculations.
CASE	Ignore or respect case differences during string searches.
* CMDS	Controls execution of MUSIC commands during an edit session.
* CREP	Enables or suppresses automatic command name replacement.
DEFINE	Define a program function (PF) key or the X command.
DELIM	Change or remove the command separator character (normally ;).
* FLIP	Define a <i>flip</i> character, used to control verification.
* HEX	Obtain output in hexadecimal form.
* LOG	Control frequency of writing to log file (restart feature).
MARK	Define a group of lines to be operated on.
UNMARK	Undefine a group of lines to be operated on.
* MSG	Display a message line on the workstation.
* MSGS	Suppress or enable all messages.
* NOCHANGE	Informs the Editor that there are no unsaved changes.
* PROMPT	Define or remove the prompting character.
PURGE	Remove (delete) a file permanently from the Save Library.
RENAME	Change the name of a file.
* REXX	Enable or disable the use of REXX procedures as Editor commands

* SCREEN	Turn ASCII screen mode on.
* NOSCREEN	Turn ASCII screen mode off.
* SEQ	Put sequence numbers into each line of the file.
STORE	Store the marked group of lines to an external file.
* SUBSET	Define which subset of Editor commands is to be allowed.
* TABIN	Specify input tab positions.
* TABOUT	Specify output tab positions.
TEXT	Specify handling of input lower case and tab characters.
TOUC	Change characters to upper case.
TOLC	Change characters to lower case.
* TRAN	Turn output character translation on.
* NOTRAN	Turn output character translation off.
* VERIFY	Control verification (displaying) of changes to the file.
X	Execute a predefined string of commands (see DEFINE).
* XIN	Begin hexadecimal input mode.
ZONE	Define the ending column for some commands such as CHANGE.
* ASMFIX	Align assembler source statements to specified columns.
FLAG	Begin automatic flagging of changed lines.
NOFLAG	Stop automatic flagging of changed lines.
* DELCHAR	Define the delete character to be used by MDELETE & MINsert command.
* PRINT	Print a file on a specified line printer.
* SUBMIT	Submit a job to MUSIC batch or other batch processors.
**	Signify a comment line.

New Commands

The following commands or macros have been added to the Editor for MUSIC/SP V2.3. For full details about these commands and other new features of the Editor, type "HELP" in the Editor's command area.

* AUTOSKIP	cause automatic cursor skip at end of text fields.
* BEEP	beep the speaker the next time the screen is displayed.
* BR	(macro) uses show area to display a file.
* COLOR	define the color of various parts of the screen.
* GETV	(macro) displays the value of a SETV name.
* FF	(macro) format marked lines or entire file using SCRIPT.
* LEFT	shift the window display left.
* MARGINS	(macro) adjust margins before using FF.
* OKREPL	suppress FILE/SAVE verification prompt for a file name.
* POINT	assign a 1-8 character label to a line.
POWERINP	begin Power Input mode.
PREFIX	turn on or off the modifiable prefix area.
* RIGHT	shift the window display right.
* SET	(macro) compatible command with CMS editor.
* SETRC	set a job return code (exit code) for the edit.
* SETV	assign a character string yyy to a name xxx.
* UNFF	(macro) restore file to original form before FF was used.

Editor Commands - Descriptions

Notation

The notation *string* indicates a sequence of blanks, letters, etc. Leading blanks in character strings are considered part of the string starting with the second position after the command name. In the command descriptions, square brackets are used to indicate optional items.

Command Syntax

Command parameters may be separated by one or more commas or blanks. A blank is not required between the command name and the parameter unless the first character of the parameter is a letter (A to Z). A blank is not required following a flip character or column number suffix. The following commands require a blank in any case: SAVE, FILE, EXEC, RUN, LIST, MERGE, PURGE, INPUT, NAME, STORE. Commands may not be preceded by a slash (/).

In general, any abbreviation between the shortest abbreviation and the full command name may be used. For example, the following may be used for the CHANGE command: C, CH, CHA, CHAN, CHANG, CHANGE. An exception is the PRINT command, which allows P but not PR (PR is the PROMPT command). Another exception is the INSERT command, which allows I and INS but not IN, to avoid confusion with the INPUT command. In the following command descriptions, the shortest abbreviations are shown under the full form of the command.

The command delimiter character (normally semi-colon), the flip character, and all string delimiters must be special characters. They may not be letters, digits or blanks.

In logical expressions, the string modifiers F and Cn (where n is a column number) may be separated by blanks or commas, or the separator character may be omitted entirely. For example, (/ABC/(FC10)). The same applies to options on the CHANGE and SPLIT commands. Examples: C/ABC/DEF/*GV, SPLIT/XXX/C5IC10.

Upper and Lower Case

The user is reminded that commands and data may be entered in upper or lower case, since (unless translation is bypassed by using the MUSIC command TEDIT or the Editor command TEXT LC) lower case input is automatically translated to upper case. Even when TEXT LC is in effect, command names and keywords (such as the options V and G on the CHANGE command) may still be entered in upper or lower case. Although most of the examples given here use upper case, the user will normally find it more convenient to type in lower case.

Current Line Pointer

In the following descriptions the current line pointer is assumed to be unchanged after the command is issued. Exceptions to this are noted under those commands that do move it.

String Separator

Commands such as CHANGE require that strings be separated by a string separator character. The usual character used is a slash (/), but any non-alphanumeric character except the command delimiter character

may be used. The string separator character is self-defining. For example, the first nonblank character after the command CHANGE is automatically defined as the string separator for that command.

```
ADD  string
A
```

This command adds *string* after the last non-blank character of the current line.

Spacing: One blank character must occur between the keyword and the first character of *string*. Any additional blanks are considered part of *string*.

Example: Before : **SAMPLE LINE**
 Command: **ADD 1234**
 After : **SAMPLE LINE1234**

```
BOTTOM
B
```

The BOTTOM command moves the pointer to one line after the last line in the file.

Example: Before : **SAMPLE LINE** **<--Pointer**
 ANOTHER LINE
 THE LAST LINE
 Command: **B**
 After : **SAMPLE LINE**
 ANOTHER LINE
 THE LAST LINE **<--Pointer**

```
CASE [ IGNORE    ]
CA    [ I        ]
      [ RESPECT ]
      [ R       ]
      [ MIXED    ]
      [ M       ]
      [ UPPERCASE ]
      [ U       ]
```

The CASE command specifies whether or not differences between upper and lower case characters should be ignored when the editor is searching for a string of characters (IGNORE/RESPECT), and/or whether text entered by the user should be left as is (MIXED) or converted to upper case (UPPERCASE).

The IGNORE/RESPECT setting affects all commands which involve string searches, such as LOCATE, LOCATEL, SCAN, CHANGE, etc. It does not affect changes typed over screen text in full-screen mode, or *string2* of the CHANGE command, or commands such as ADD or INSERT.

With CASE RESPECT, upper and lower case characters are considered different when searching.

With CASE IGNORE (the initial default), upper and lower case characters are considered the same, for the purposes of searching for a specified string of characters. This is as if all characters were in upper case. The file *COM:EDITOR normally contains the command CASE IGNORE, so that setting is the default for most edits.

When CASE is specified without a parameter, the current IGNORE/RESPECT setting is shown. To show the current UPPER/MIXED setting, use the TEXT command without any parameter.

The command CASE MIXED is equivalent to the command TEXT LC. CASE UPPERCASE is equivalent to the command TEXT UC.

More than one parameter can be used on a CASE command. For example, CASE UPPERCASE RESPECT. This can be abbreviated to CA U R.

Example:

CA I The command "LOCATE abc" finds "ABC" and "aBc" as well as "abc". The command "CHANGE/mcgill/McGill/*" changes "Mcgill", "MCGILL", "MCGill", etc. to "McGill" (assuming TEXT LC is in effect).

CENTER
CE

The CENTER command moves the full-screen display up or down in the file, so that the current line will be in the center of the screen display. By default, F5 is defined as CENTER. To shift the display up or down in the file, place the cursor at a line and press F5 to center that line.

CHANGE [/string1/string2/][n][G][D][F][Cn][V][P][S]
C

The CHANGE command replaces the first occurrence of a character string with another in a number of lines (normally 1), beginning with the current line. Within the range of lines, only the first occurrence of the string in each line is replaced. The number of lines searched depends on the parameters specified in the command. The last line searched becomes the current line. If the line pointer is at EOF (end of file), an automatic TOP command is done before the change.

When a CHANGE command is entered with no parameters, the editor's CHANGE Panel is displayed. The CHANGE Panel lets you do a change operation by filling in fields on the panel.

The search for the string is affected by whether or not CASE IGNORE is in effect. CASE IGNORE ignores

differences between upper and lower case characters. Refer to the CASE command.

The parameters n, G, D, F, Cn, V, P, S are not required. If used, they can be specified in any order. Commas are not required to separate the parameters.

Parameters:

- string1 Character string which is to be replaced.
- string2 Replacing character string. If omitted, *string1* is deleted. The final string delimiter (/) may be omitted if no parameters are used.
- n Number of lines searched. If not specified, 1 is assumed. If * is specified, the search will be applied to the rest of the file, starting with the current line.
- G If specified, the change will be applied to ALL occurrences of *string1* in as many lines as specified by the *n* parameter.
- D If specified, the remainder of the line (or zone) following the changed string is replaced by blanks. ("D" stands for "delete".)
- F If specified, the change is made only if "string1" begins in column 1 of the line (or in column n if Cn is used). ("F" stands for "first" or "FIND mode".)
- Cn If specified, the change is made only if "string1" occurs starting in column n or later.
- V If specified, all lines which are changed are displayed regardless of whether the editor is in the BRIEF status or the VERIFY status. If V is not specified and the range is more than one line, the changed lines are not displayed. ("V" stands for "verify".)
- P If specified, the editor prompts for the user's permission to make a change. The user can respond Y (for yes), N (for no), S (to stop the execution of the CHANGE command), G (to continue command execution without further prompts), or = (to find the current line number).
- S If specified, it causes the screen to be displayed for each line found (as in 3270 "screen mode"). On a 3270-type workstation, the PA2 key must be pressed between screens.

Examples:

C/ABC/DEFG/	Changes the first occurrence of ABC to DEFG in the current line. The line pointer is not changed.
C/OLD/	Removes the characters OLD from the current line.
C/OLD//3,G	Removes all occurrences of OLD from the next 3 lines, beginning with the current line. The line pointer is moved down 2 lines.
CH /XXX/YY/ 20,F,C11	In the next 20 lines, changes XXX to YY wherever XXX occurs starting in column 11.
C/ /*/G	Changes every blank to * in the current line.
C//AAA/	Adds AAA to the beginning of the line.
CHANGE/E/ES/*GV	This will change all occurrences of E to ES in the rest of the file, starting with the current line. Changed lines are displayed.
CHANGE\$/\$. \$	This changes "/" to "." in the current line. The dollar sign (\$) acts as the string delimiter in this case.

CMDPFK
CMDPF

This command is used only in 3270 full-screen mode, and is intended primarily for use in function key definitions. It causes the cursor to be put into the command area the next time the screen is displayed. The standard definition of F12 is equivalent to a CMDPFK command.


```
COPY i,j,k
CO
```

This form of the COPY command allows copying lines by reference to the line numbers of the lines. The block of lines from line *j* to line *k* inclusive is copied to after line number *i*. (Line numbers may be determined by using the = command.) The original lines are not deleted. If *i* is specified as 0, the lines are copied to the beginning of the file. If *j=k*, only one line is copied.

Line numbers may also be specified in any of the following forms: *n*, **+n*, **-n*, *LAST*, *LAST-n*, where *n* is a number, * means the current line, and LAST means the last line of the file. Example: COPY LAST,*,*+3.

For the command "COPY.", used to copy a marked group of lines, refer to the topic "Marking a Group of Lines" later in "Advanced Features".

Pointer: Set to the last line of the inserted section.

Example: Before: **A1**
 A2
 A3
 A4
 Command: **COPY 4,1,2**
 After: **A1**
 A2
 A3
 A4
 A1
 A2

```
CURSOR LOCATE
CU      NOLOCATE
        n
        n TEMP
        END
```

The CURSOR command controls output cursor positioning during full-screen mode.

When the Editor displays the screen, it normally puts the cursor at the first position of the current line or the command area. However, commands such as CURSOR, LOCATE and SPLIT can cause the cursor to be displayed at a different position in the current line.

n is a number from 1 to 72. It is a column position number relative to the start of the screen field for the current line. 1 refers to the first character of the field, 2 to the second character, etc.

CURSOR LOCATE places the cursor at the start of the found string after any of the commands: LOCATE, UPLOCATE, FIND, UPFIND, SEARCH, HUNT. CURSOR NOLOCATE cancels this option. You can put a CURSOR LOCATE command into your private EDITOR file to make this option the default for all your edits. Abbreviations are LOC, NOLOC.

CURSOR *n* places the cursor at the specified column position whenever the cursor is not put out in the command area, provided a command such as LOCATE or SPLIT or CURSOR END or "CURSOR *n* TEMP" does not result in a different placement. This stays in effect for the remainder of the edit. To cancel the effect of this command, use CURSOR 1.

CURSOR *n* TEMP places the cursor at position *n* in the screen field for the current line, but only for the next screen display. Abbreviation T may be used for TEMP, as in CU 15 T. This command is intended mainly for function key definitions. For example, DEFINE PF1 INSERT ABC---XYZ;CURSOR 4 TEMP.

CURSOR END is similar to CURSOR *n* TEMP, except that the cursor is placed after the last nonblank character in the field.

Examples:

```
CURSOR 41
CU 15 T
CUR LOC
```

```
DEFINE  Fn      [commands]
DEF     PFn      <TAB>
        X        <RETRIEVE>

DEFINE  CMD xxx yyy
DEF     CMD 0
        PREFIX pppp tt mmmmmmmmm
```

You can customize the operation of the program function keys by using the DEFINE command, which defines a function key as equivalent to any string of Editor commands. Any function keys defined in this way override the standard default function key definitions.

The DEFINE command can also change the definition of the X command, redefine command and macro names (by the CMD option), and define prefix area commands (by the PREFIX option). For more information type "help define" in the Editor's command area.

Form 1:

```
DELETE [n][,(logical expression)]
DEL
```

This command deletes *n* lines from the file, beginning with the current line. If there are fewer than *n* lines left in the file from the current line to the end, those which exist are deleted and the message *EOF is displayed on the workstation. If * is specified instead of *n*, the delete will apply to the remainder of the file, starting with the current line.

If (*logical expression*) is specified, only the lines for which (*logical expression*) is true will be deleted. Parentheses are required around the logical expression. For example, the command "DEL*,(/TEST/(FC73))"

deletes all lines in the file with the characters TEST in columns 73 to 76, from the current line to the end of the file.

Following a delete, the new current line (that is, the line following the last line deleted) will be displayed if the Editor is in VERIFY mode. A flip character may be used to temporarily change to or from VERIFY mode (refer to the FLIP command).

For the command "DEL.", used to delete a marked group of lines, refer to the topic "Marking a Group of Lines" in the section "Advanced Features".

Spacing: The *n* may be anywhere on the command line after the keyword or abbreviation, or may be omitted, in which case 1 is assumed. If both parameters are specified they must be separated by a comma or blank.

Pointer: Set to the line after the last line deleted, or to after the end of the file.

Example: Before: **SAMPLE LINE**
 ANOTHER LINE **<--Pointer**
 YET ANOTHER
 Command: **DEL**
 After: **SAMPLE LINE**
 YET ANOTHER **<--Pointer**

Form 2:

```
DELETE /string/[,(logical expression)]  
DEL
```

The current line and all lines after the current line down to, but not including, the line containing *string* are deleted. If no such line is found, an error message is displayed and the file is not changed.

If (*logical expression*) is specified, only those lines for which (*logical expression*) is true will be deleted. Parentheses are required around the logical expression.

Pointer: Set to the line containing *string*.

```
DELIM [x]
```

The DELIM command changes the command delimiter character to the character specified by *x*. The delimiter character *x* may be any non-alphanumeric character. It separates editor commands entered on the same line.

If the DELIM command is not used, the command delimiter character is assumed to be a semicolon (;) by default. If the command DELIM is entered with no parameter, then no character is the delimiter character, and only one command may be entered on a line.

The command DELIM OFF disables the delimiter character, and only one command can subsequently be entered on a line. However, the original delimiter character (if any) is remembered, and can be enabled later by the command DELIM ON. This makes it possible to temporarily undefine the command delimiter (for example, in order to use the INSERT command to insert text that may contain the delimiter), without knowing what the original delimiter character is. If DELIM ON is used after a DELIM command with no parameter, nothing is changed.

Example:

```
delim $
l xaz$c/a/y/$l abc
delim off
insert The $ in this line is not a delimiter
delim on
last$insert xyz
```

DOWN [n]
DN

The DOWN command is the same as the NEXT command. Refer to the description of the NEXT command.

DOWNPAGE
DOWNP
DNP

This command is used only in 3270 full-screen mode. It shifts the screen display to the next screen (page) in the file (towards the end of the file). The first line displayed on the new screen will be the line after the last line on the current screen. This command corresponds to F8 by default.

DOWNWINDOW [n]
DOWNW
DNW

The DOWNWINDOW command is used only in 3270 full-screen mode. It shifts the screen display (window) towards the end of the file. The parameter *n* is the number of lines by which the screen is to be shifted. If *n* is omitted, 6 lines is assumed.

```
DUP  [n]
```

This command causes the current line to be duplicated n times. If n is not specified, it is assumed to be 1.

Pointer: Set to the last of the new lines created.

Example: Before: **SAMPLE LINE** <--Pointer
 Command: **DUP 4**
 After: **SAMPLE LINE**
 SAMPLE LINE
 SAMPLE LINE
 SAMPLE LINE
 SAMPLE LINE <--Pointer

```
EXECUTE  [name]  
EXEC  
EX
```

This command saves the changed file in the Save Library under the name *name*, and then automatically requests MUSIC to execute the program contained in that file in a way equivalent to the user typing the MUSIC command "EXEC name". If *name* already exists in the user's Save Library, the Editor will prompt the user whether to replace the existing file or not. If YES (or Y) is replied, the edited file will replace the previously existing file, and the EXEC will be done. Otherwise, no operation will be done. The prompt is not done if replacing an existing file which was read by EDIT at the start of the edit. File attributes can also be specified after the file name, as in the FILE command. If no name is specified on the Editor EXEC command, the name on the original EDIT (or TEDIT) command or on the last NAME command will be used. If desired, column number limits (as on the FILE command) may be specified before *name*. The parameter *name* may be /INPUT.

If this command is used in the User Data Set version of the Editor, a file name must be specified with the command. The Editor will try to replace the named file by the temporary updated version of the UDS file being edited. If the replacement is successful, a request to execute the program in the named file will be made to MUSIC. The original UDS file is not updated, and the edit is terminated.

```
FILE  [m] [n] [name] [PRIV] [XO] [CNT]  
              [*]  [PUBL]  
                  [SHR ]
```

The FILE command is the usual way of terminating an Editor session and saving the updated file. This command saves or replaces the updated file directly into your Save Library.

Parameters:

name	Specifies the name for saving (or replacing) the updated file in your Save Library. If <i>name</i> already exists in your library, the Editor will ask whether to replace the existing file or not. If the user replies with YES (or Y), the edited file will replace the previously existing file. No save operation will be done if the user's reply is not YES. Note that if <i>name</i> is not specified, the Editor will use the name which was specified on the EDIT command or on the last NAME command, or prompt you to enter a file name if no name is known to the Editor.
m n	These parameters specify the first and last column numbers, respectively, that will be saved for each line. Remaining columns are filled with blanks. If only one number is supplied it is assumed to be n and m will be assumed to be 1. The column numbers must appear before the "name" parameter. If omitted, each line will be saved in full. When you specify column numbers, the editor asks for verification before doing the command. Enter yes (or y) to allow the command to continue. Enter anything else to cancel the command. (If editor messages are currently suppressed by the MSGS OFF command, the verification is not done.)
PRIV	The file will be made private.
PUBL	The file will be publicly readable and in the common index.
SHR	The file will be publicly readable but not in the common index. Other users must specify the owner's userid in order to access the file, as in userid:filename.
XO	The file will be execute-only.
CNT	The system will maintain a usage count for the file (Save Library files only). The count is increased by 1 each time the file is opened. It is displayed by the "ATTRIB filename" command in *GO mode. Note that using the editor to modify the file resets the count to zero, since the editor always recreates the file.

Notes on File Attributes

If an existing file is edited and then saved back by using the SAVE, FILE or EXEC command without specifying a file name or attributes, all the original attributes of the file are preserved. This technique should be used when it is desired to change a file without changing its attributes. In other cases, PRIV is used as the default attribute.

Examples:

```
FILE 1,72,FILEAB
  saves columns 1 to 72 inclusive for each line in the updated file, under the name
  "FILEAB".
```

```
FILE
  replaces the original file with the updated version of the file.
```

```
FILE FILE1,PUBL,XO
  saves the updated file as a public execute-only file in the Save Library under the name
  "FILE1".
```

```
FIND [string]
F
```

The FIND command searches the file, starting with the line after the current line, for a line beginning with

string. The search continues down the file until the first match, or until the pointer has been moved past the last line of the file (the message *EOF is displayed). If issued after the pointer is past the end of the file, an automatic TOP is performed before the search begins. If VERIFY status is in effect, the line found is displayed on the workstation.

If *string* is not specified, the same string as specified in the last used FIND, LOCATE, UFOUND, ULOCATE, HUNT, or SEARCH command is used.

(The UFOUND command is similar to the FIND command but searches upwards through the file.)

Spacing: One blank should be present between the keyword or abbreviation and *string*. It is ignored if present. All other blanks are considered to be part of *string*, which extends to and includes the rightmost non-blank in the command line.

Pointer: Set to the found line, or beyond the end of the file if no line is found which begins with *string*. (Message *EOF is displayed in this case).

Example: Before: **SAMPLE LINE** <--Pointer
 ANOTHER LINE
 YET ANOTHER
 Command: **F YE**
 After: **SAMPLE LINE**
 ANOTHER LINE
 YET ANOTHER <--Pointer

FLAG SCRIPT [COL=n]
FLA

This form of the FLAG command is particularly useful when using the Editor to make modifications to a file that is to be used by the MUSIC/SCRIPT program. (The MUSIC/SCRIPT program is described in Chapter 5.) This command will cause all modified lines to be date stamped in columns 73 through 77, with the current date in the form YYDDD. deletion text to be added to the front of all deleted lines when flag mode is in effect (see the general form of the FLAG command).

This command automatically issues the following Editor commands:

```
TOP
TEXT SCRIPT
ZONE 72
WINDOW 1,72
```

The specification of the COL=n parameter can be used to put the date stamp starting in column number *n* rather than 73. The generated ZONE and VERIFY commands would then be changed accordingly.

Pointer: The pointer is moved to the top of the file.

FORMAT

This macro is used to format all the text in a file while remaining in the edit session. The SCRIPT program is used to perform the formatting with default SCRIPT control words incorporated to fit the text in 72 columns. If you wish, you can include your own control words to override the default settings.

The original text (unformatted) is stored temporarily in a holding file at the time you issue the FORMAT macro. You can restore the file to its original form by using the UNFORMAT macro.

This macro is not recommended for large files as the process is time consuming. It is ideal for formatting memos when you are using the editor in the MAIL program.

```
HELP [command-name] [list-of-topics]  
HE
```

This command is used to obtain information about a particular Editor command, or about the Editor in general.

If no parameter is specified, the command gives general information about the Editor, such as a one-line description of common commands, Editor concepts, etc.

If *name* is specified, where *name* is the name or abbreviation of an Editor command, information about the command is displayed.

To access MUSIC's general help facility from the Editor, use a slash (/) preceding the HELP command. Enter "/HELP" or "/HELP topicname" from the command area of the Editor. (Without the "/" you will receive help on the Editor and not MUSIC's general help facility.)

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
/HELP COPY	places you in MUSIC's general help facility and gives information about MUSIC's COPY command (not the Editor's COPY command).

```
HUNT [string]  
H
```

The HUNT command combines the effect of a TOP command followed by a FIND. It searches the entire file for the first line beginning with *string*. If in VERIFY status, the found line is displayed. If there is no line beginning with *string*, the message *EOF is displayed.

If *string* is not specified, the same string as specified in the last used FIND, LOCATE, UFOUND, ULOCATE, SEARCH, or HUNT command is used.

Pointer: Set to the found line, or beyond the end of the file if no line is found which begins with *string*. (Message *EOF is displayed in this case.)

Spacing: One blank should be present between the keyword or abbreviation and the first character of *string*. All other blanks are part of *string*, which extends to the last non-blank in the command line.

```
INPUT [END=xx]
INP
```

To change the mode of operation from edit to input. All lines typed after the INPUT command are placed, sequentially, after the current line. When a blank line is entered during the input mode, the Editor switches to edit mode with the pointer at the last line entered (not counting the blank line which is not saved). If the command is given at the very beginning of the Editor session, or immediately after a TOP command, the new lines are placed before the first line of the file.

The parameter END=xx, if used, causes the Editor to recognize xx as the input mode terminator, rather than a blank line. This option cannot be used in 3270 full-screen mode. xx may be one or two characters long, and any nonblank characters may be used. Input mode is terminated by entering a line with xx starting in column 1, followed by blanks. This xx line is not saved. The END= parameter is useful when it is required to enter blank lines while in input mode.

See also POWERINP.

```
INSERT [string]
I
```

INSERT places a new line, containing *string*, after the current line. Note: If the command is given immediately after TOP, the new line is inserted before the first line of the file. A blank line can be inserted in the file just by typing INSERT.

CAUTION: The use of tab characters with this command may not have the desired effect. For example, the sequence "I tx", where "t" is the tab character, will put "x" in column 8 if the first tab location was defined to be column 10.

Spacing: One blank must be present between the command name or abbreviation and *string*. Any other blanks are part of *string*.

Pointer: Set to the inserted line.

Example:	Before:	SAMPLE LINE	<--Pointer
		ANOTHER LINE	
	Command:	I YET ANOTHER	
	After:	SAMPLE LINE	

```

YET ANOTHER          <--Pointer
ANOTHER LINE

```

```

JOIN [/string/]
JO

```

The JOIN command may be thought of as the opposite of the SPLIT command. It joins the next line to the end of the current line, and deletes the next line.

The second line is added after the last nonblank character in the "ZONE" part of the first line. A specified character string (or a single blank if a string is not specified) is placed between them. Only the "ZONE" parts of the lines participate (refer to the ZONE command). If the joined text is too long for one line, a warning message is displayed and the excess is left on the second line.

A single blank is used if */string/* is not specified.

```

Example:   Before:   line1
                  line2   <--- current line
                  line3
                Command: join /+++/
                After:   line1
                  line2+++line3   <--- new current line

```

```

LAST
LA

```

This command positions the line pointer to the last line of the file. The last line is displayed if the Editor is in VERIFY status.

Pointer: Set to the last line of the file.

```

LIST [filename[,m][,n]]
LI

```

This command is used to display the contents of a file, or part of a file, or the entire file being edited. LIST is often used in conjunction with the MERGE command.

Line numbers *m* through *n* of the file *filename* are listed. If the *m* or *n* options are omitted the entire file is listed. If the *n* option is omitted or is too big, then the listing stops at the end of the file. The LIST command without any parameters displays the entire file being edited. Line numbers will also be displayed if line numbering is in effect. Line numbering is requested by using the NUMBER command.

The file name may be /INPUT (the Input File) or /HOLD (the Holding File).

"(3)" may be specified instead of *filename*. This causes the UDS file on MUSIC unit number 3 to be listed. The file is rewound both before and after the listing operation.

```
LOCATE [string]
L
```

LOCATE is used to find the first line after the current line which contains *string* anywhere in the line and, if in VERIFY mode, to display the line on the workstation. The search begins with the line following the current line and continues down the file. If *string* does not exist in the file between the line following the current line and the end of the file, the message *EOF is displayed. If the command is given after an end of file an automatic TOP is performed before the search begins. If the command is given immediately after *EOF (bottom of file) or a TOP command, the first line of the file will also be searched for *string*. The operation of LOCATE may be affected by the ZONE setting (refer to the description of the ZONE command).

If *string* is not specified, the same string as specified in the last used FIND, LOCATE, UFind, ULOCATE, HUNT, or SEARCH command is used.

(The ULOCATE command is similar to the LOCATE command but searches upwards through the file.)

Pointer: Set to the line in which the *string* is found, or beyond the end of the file, if it is not found.

Spacing: One blank should be present between the keyword or abbreviation and *string*. It is ignored if present. All other blanks are part of *string*, which extends as far as the rightmost non-blank in the command line.

```
Example:   Before:  SAMPLE LINE          <--Pointer
            ANOTHER LINE
            YET MORE
            Command: L ER
            After:  SAMPLE LINE          <--Pointer
            ANOTHER LINE
            YET MORE
```

```
MARK [?]
MA
```

The MARK command is used to identify the first and last lines of a group of lines. The group may then be operated on by the *dot* forms of the command =, MOVE, COPY, DELETE, CHANGE, CHANGEL, REPEAT, TOUC, TOLC, COPYCOL, SEQ, SORT, and STORE.

Refer to the topic "Marking a Group of Lines" in the section "Advanced Features".

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

This command brings a copy of line numbers *n* through *m* of the file *filnam* into the file being edited. If the *n* and *m* options are omitted the entire file is copied. If the *m* option is omitted or is too big, the file is copied until the end of the file.

The new lines are inserted after the current line, and the last line inserted becomes the new current line. If the preceding command was a TOP, or the MERGE command is given at the very beginning of the Editor session, the lines are placed at the beginning of the file.

The records merged from the Save Library are truncated or filled out with trailing blanks, if necessary, to match the record length of the file being edited.

The file name may be /INPUT (the Input File) or /HOLD (the Holding File).

"(3)" may be specified instead of *filnam*. This causes the UDS file on MUSIC unit number 3 to be used as input for the merge. The file is rewound both before and after the merge. Examples: MERGE (3), MERGE (3),15,50.

The LIST command can be used to list this external file to verify its contents before the merge operation is done.

```
MOVE i,j,k
MO
```

This form of the MOVE command allows moving lines by reference to the line numbers of the lines. The block of lines from line *j* to line *k* inclusive is moved to after line number *i*. (Line numbers may be determined by using the "=" command.) The original lines *j* to *k* are deleted. If *i* is specified as 0, the lines are moved to the beginning of the file. If *j=k*, only one line is moved.

Line numbers may also be specified in any of the following forms: *n*, **+n*, **-n*, *LAST*, *LAST-n*, where *n* is a number, * means the current line, and LAST means the last line of the file. Example: MOVE LAST,*,*+3

For the command "MOVE.", used to move a marked group of lines, refer to the topic "Marking a Group of Lines" in the section "Advanced Features".

Pointer: Set to the last line of the inserted section.

```
Example:      Before :      A1
                                   A2
                                   A3
                                   A4
                                   A5
              Command: MOVE 4,1,2
              After :      A3
                                   A4
```

A1
A2
A5

```
NAME [name]
NA   [ 0  ]
```

This command is used to display or change the file name associated with the edit session. *name* is the name you wish to use for this file.

If no parameter is used, the name of the file being edited is displayed. For a UDS file edit, the volume name is also given.

If 0 (zero) is used as the parameter, the file name is made undefined. Then if a SAVE or FILE command is done, the user will be prompted to enter the file name to be used.

The file name associated with the edit session may be defined or changed by using the new name as a parameter on the NAME command (Save Library Files only). A subsequent SAVE command, for example, will use the new name.

MUSIC also accepts FNAME, with abbreviation FN, to mean the same as the NAME command.

Spacing: The file name, if used, must be separated from the command by at least one blank.

```
NEXT [n]
N
```

This command moves the pointer *n* lines down the file from the current line. If *n* is omitted, 1 is assumed. The new current line is displayed, unless a BRIEF command has been issued previously.

For compatibility with other systems, MUSIC also accepts DOWN (or DN) to mean the same as the NEXT command.

Pointer: Set *n* lines beyond the current line.

Example:	Before:	SAMPLE LINE	<--Pointer
		ANOTHER LINE	
		YET MORE	
	Command:	N2	
	After:	SAMPLE LINE	
		ANOTHER LINE	
		YET MORE	<--Pointer

NOFLAG
NOFL

This command terminates the effect of a previous FLAG command, except that the ZONE and WINDOW settings still apply. However, the flag options are remembered by the Editor, and the original flagging can later be continued by issuing a FLAG command without any parameters.

NONUMBER
NONUM

This command is used to suppress the line numbering caused by the NUMBER command. At the start of the Editor session, the line numbering is off.

NOSHOW
NOSH

The NOSHOW command removes the text displayed at the bottom of the screen by a previous "SHOW file-name" command, and enlarges the FS screen back to its original size.

NULLS **[FLIP]**
 [F]

This command applies only to the 3270 full screen mode. It causes null characters to be displayed at the end of each field on the screen. An alternate name for NULLS is NOFILL.

The FLIP option reverses the current command; i.e., NULLS FLIP causes blanks to be displayed at the end of each field if null characters were previously displayed, or causes null characters to be displayed if blanks were previously displayed.

At the start of the Editor session, null characters are displayed. The opposite of this command is NONULLS.

```
NUMBER [FLIP]
NUM    [F  ]
```

This command is used to cause line numbers to appear whenever lines of the file are displayed. The FLIP option reverses the current setting for the command; i.e., NUMBER FLIP turns numbering on if it was off, and off if it was on.

At the start of the Editor session, the line numbering is off.

```
POWERINP
POW
```

The POWERINP command (actually a macro) is similar to the INPUT command, except that you can type continuously without having to press the NEWLINE key or TAB key at the end of each line of input. Power Input Mode is similar to Input Mode, except for these differences:

1. The cursor skips automatically to the beginning of the next line when the cursor reaches the end of a line. This allows you to type continuously without having to watch where the cursor is on the screen.
2. When you press ENTER or a function key while in Power Input Mode, the lines you have just typed are reformatted by the editor. This is called "word wrap". Words that were split at the end of a line are put back together, and text is formatted within the current WINDOW columns. A blank line causes a formatting break (paragraph separator). The formatting is similar to what the WW prefix command would do. See the WW command in the topic "Prefix Area" earlier in this chapter.
3. Pressing ENTER after typing one or more lines of input does not end Power Input. The Enter key causes a formatting break, and Power Input continues. This is useful for entering single lines (like Script control words) that should not be formatted with the rest of the text. To end Power Input, press ENTER twice, or F12 once.

Power Input can also be started by the POW prefix area command. Input starts after the line identified by POW.

If POWERINP is used while not in 3270 full-screen (FS) mode, normal Input Mode is used.

Note: To use Power Input with NET3270, document mode (the Alt-E toggle) must be OFF. NET3270 has its own word-wrap feature (Alt-W while in document mode), which makes the editor's Power Input unnecessary.

Internals:

Power Input is started by the macro POWERINP, which, among other things, issues the commands DEFINE INPUT \$FINP and INPUT. The text typed during Power Input is processed by the macro \$FINP. Automatic cursor skip is obtained by the command AUTOSKIP INPUT. For more information, see the DEFINE command and the comments in file \$FINP.MAC.

```
PREFIX ON
PRE      OFF
          FLip
          CLear
```

The prefix area, turned on by the command PREFIX ON, is a 4-character modifiable field at the left of each displayed line of the file. It contains ====, or the last 4 digits of the line number if NUM ON is in effect. You can enter various special commands in the prefix area, to do editing operations such as inserting or deleting lines, moving and copying lines, etc.

For more information type "help prefix" in the Editor's command area.

```
PURGE name
PUR
```

This command is used to permanently remove (delete) a file from the Save Library, as in the MUSIC command /PURGE.

To delete the Input File, specify file name /INPUT. To delete the Holding File, specify file name /HOLD.

Spacing: The file name must be separated from the command by at least one blank.

```
QUIT
Q
```

The QUIT command terminates the Editor session, without performing any save operation.

If you have made changes to the file but have not issued a FILE command to make the changes permanent, you will be prompted for permission to end the edit session. Enter YES or Y to end the session, or NO or N to cancel the QUIT operation and continue editing.

The END, QUIT, and QQUIT commands terminate the edit session without writing the editor's copy of the file to disk. An optional job return code *n* (a number 0 or higher) can be specified on each of these commands. If the return code parameter is omitted, the code specified on the last SETRC command is used, or 0 if no SETRC was done. Please refer to the SETRC command for additional notes.


```
RENAME oldname newname
REN
```

The RENAME command changes the name of an existing file in the Save Library. It performs the same function as the MUSIC command RENAME.

Most attributes of the file, such as public/private, tag, and date last referenced, are unchanged by the command. The only exception is the date last written, which is set to the current date.

```
REPLACE [string]
R
```

This command replaces the current line with *string*. You can replace the current line with a completely blank one by typing REPLACE without specifying a string.

Spacing: One blank must appear between the keyword and the first character of *string*. All succeeding characters are part of *string*.

Example: Before: **SAMPLE LINE**
 Command: **R NEW STUFF**
 After: **NEW STUFF**

```
SAVE [name]
SA [(u) ]
SV
```

This command causes the current temporary copy of the file to replace the specified file, without terminating the Editor. This is similar to the FILE command except that the edit session will not be terminated. The line pointer is not changed. Therefore, the user may continue to issue additional edit commands on the same file.

Parameters:

- | | |
|------|--|
| name | If a file name is not specified on the command, the name on the original EDIT command or on the last NAME command will be used, or, in the case of editing a User Data Set (UDS) file, the UDS file being edited is replaced. |
| u | A unit number in parentheses may be specified in place of a file name, causing output to be done to that unit instead of to a file. For example, SAVE (3). The unit number must be 3, 7 or 10. The unit is not rewound before output is begun. |

For a description of the various other parameters which can be used on the SAVE command, refer to the FILE command, which takes the same parameters. These include starting and ending column numbers and

file attributes (PRIV, PUBL, etc.)

Examples:

SAVE 72,(3)

SAVE NEWFIL It writes the updated version of file to a file named NEWFIL. The original file is not updated.

It writes columns 1 to 72 of each line in the updated version of file to the UDS defined in unit 3. The original file is not updated.

See also FILE and STORE.

```
SEARCH [string]
S
```

The SEARCH command combines the effect of a TOP command followed by a LOCATE. It searches the entire file for the first line containing *string*. If in VERIFY status, the found line is displayed on the workstation. If *string* does not exist in the file, the message *EOF is displayed.

If *string* is not specified, the same string as specified in the last used FIND, LOCATE, UFind, ULOCATE, HUNT, or SEARCH command is used.

Pointer: Set to the line containing *string*, or past the end of the file.

Spacing: One blank should be present between the keyword or abbreviation and the first character of *string*. All other blanks are part of *string*, which extends to the last non-blank in the command line.

```
SHOW PFn
SH   PFPm
      PFAn
      PF
      X
      filename n1 n2
```

The SHOW command displays the current definition of Program Function (PF) keys or the X command, or displays the contents of a specified file at the bottom of the screen in FS mode.

SHOW PFPm or SHOW PFAm (*m* is a number normally from 1 to 12), or SHOW PFn (*n* is a number from 1 to 24) displays the command string currently defined for that function key. SHOW PF gives the definitions of all function keys 1 to 24. SHOW X displays the definition of the X command.

"SHOW filename" displays the first 12 lines of a file at the bottom of the screen. "SHOW filename n1 n2" (*n1* is the starting line number, *n2* is the ending line number) displays up to 12 lines of a file at the bottom of the screen. The default for *n1* is 1 and the default for *n2* is *n1+11*. The text remains on the screen until removed by a NOSHOW command or replaced by another SHOW command. The number of screen lines available for editing (the *n* in the command "FS n") is reduced by the number of lines displayed by SHOW. This form of the SHOW command could be used to permanently display function key definitions or other

helpful information.

```
SPELL
```

This macro invokes the SPELL program to spell the current file. After you are finished with the SPELL program, you are returned to the original edit session.

Note: Invoking SPELL from the Editor instead of *Go mode means that no exception list is kept for your dictionary.

```
SPLIT /string/[Cn][ICm]
SP
```

This command causes the current line to be searched for *string* and if it is found, the current line is broken into two lines, the first consisting of columns 1 through the last column before *string* and the second extending from the beginning of *string* to the end of the line. The *Cn* parameter specifies the column number in which the search for *string* is to begin. The second line will be adjusted to start in column 1 unless *ICm* is used to specify an indentation column number. The first line becomes the new current line.

In 3270 full-screen mode only, the screen cursor may be used to indicate the point at which the line is to be split. In this case, the SPLIT command is used without any parameters. The character at which the cursor is placed becomes the first character of the second line. The cursor is left at the end of the first line. F2 has the default definition of SPLIT.

Pointer: Set to the first of the two lines.

Spacing: One blank may optionally be present between the command name or abbreviation and the first slash (/). The second string delimiter (/) may be omitted if *Cn* and *ICm* are not used and the string does not end in a blank.

Example:	Before:	SAMPLE LINE	<--Pointer
	Command:	SP /LI/	
	After:	SAMPLE	<--Pointer
		LINE	

```
SORT * options
      . options
      * filename2 options
      . filename2 options
      filename1 filename2 options
```

The SORT editor macro uses the MUSIC SORT command to sort the entire file you are editing ("sort *") or part of the file that you have MARKed ("sort ."). The sorted records replace the original records, unless you specify a target file name as the second parameter.

Options can be specified, if needed. They are as on the MUSIC SORT command.

Possible options are:

m-n	Starting (m) and ending (n) column of the sort key.
-d	Sort in descending order.
-r	Replace the target file (filename2) without prompting.
-deldups	Delete output records which have the same key field as the previous output record (i.e. delete duplicates).

Default is to sort in ascending order, using the entire record (or the first 256 characters if the records are longer than 256) as the sort key.

When the first parameter is * or . , the records to be sorted are stored to file @SORT.TMP, which is then used as filename1 on a MUSIC SORT command. The resulting sorted file is merged back into the current file, replacing the original lines. The UNSORT macro uses the contents of file @SORT.TMP to undo the sort.

```
STORE [n] [m] filename [attributes] [APPEND]
STO
```

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

If the optional APPEND keyword (abbreviation: APP or 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.

Note: When lines are appended to an existing file, unused space is not released at the end of the file. This is intentional, in order to prevent an excessive number of extents being created when several stores are done to the same file. Unused space can be freed later by editing and filing (FILE command) the file, or by running the following job:

```
/FILE 1 NAME(filename) OLD
/LOAD IEFBR
```

The following parameters are available:

n	(optional) starting column number.
m	(optional) ending column number.
filename	the name of the target file.
attributes	(optional) file attributes: PUBL, PRIV, SHR, COM, XO, CNT. When appending to an existing file, the <i>attributes</i> are ignored.

Example:

```
STORE MYFILE           Writes marked lines to file MYFILE.  (If the file already exists
```

you are asked if you wish to replace it.)

```
STO 11 20 MYFILE PUBL
```

Writes columns 11-20 of marked lines to file MYFILE, and creates the file as public.

TAG [**string**]

The TAG command displays or sets the tag string associated with the file being edited. The tag is up to 64 characters long, and is stored with the file when a SAVE, FILE, or EXEC command is used. Often the tag is used as a one-line description of the file's contents.

If *string* is specified on the TAG command, it replaces the current tag. To remove the tag, use the command TAG '. If no parameter is present, the current tag (if any) is displayed.

TEXT [**LC**]
TEX [**UC**]
 [**SCRIPT**]
 [**NOSCRIPT**]

The TEXT command is used to specify whether lower case input is to be translated to upper case or not. The command remains in effect until the end of the edit session, or until another TEXT command is used. When TEXT is entered without a parameter, the current setting is displayed.

Parameters:

- UC specifies that lower case input is to be translated into upper case automatically. This is the default when the EDIT command starts the editor with a file that contains all upper case characters.
- LC specifies that lower case input is to be left as is. This is the default for new files and when starting the Editor with files that already contain lower case characters.
- SCRIPT indicates that lower case input is to be left as is, and that input tab characters are not to be translated to the appropriate number of blanks. Tab characters in the file are displayed as "#" characters. TEXT SCRIPT is the default if /TEDIT was used to start the edit.
- NOSCRIPT removes the effect of a previous TEXT SCRIPT command, except that the UC/LC setting is not changed.

See also the CASE command.

TOLC [n]

This command changes characters to lower case in a line or group of lines, starting with the current line. The last line converted becomes the new current line. Only alphabetic letters (A-Z) in the *zone* portion (as defined by the ZONE command) of each line are changed.

n is the number of lines (1 or more). If *n* is omitted, only the current line is changed. The dot form of this command (TOLC.) can be used for a marked group of lines.

TOP
T

The TOP command moves the pointer to the first line of the file.

Pointer: Set to the first line of the file. If the command INSERT, MERGE or INPUT is given immediately after the TOP command, the new lines are placed before the first line of the file. Also, a FIND, LOCATE or SEARCH command used immediately after a TOP command will include the first line of the file in the search. At the start of the Editor session, the pointer is at the top of the file.

TOUC [n]

This command changes characters to upper case in a line or group of lines, starting with the current line. The last line converted becomes the new current line. Only alphabetic letters (a-z) in the *zone* portion (as defined by the ZONE command) of each line are changed.

n is the number of lines (1 or more). If *n* is omitted, only the current line is changed. The dot form of this command (TOUC.) can be used for a marked group of lines.

UFIND [string]
UF

The UFIND command searches the file, starting with the line preceding the current line, for a line beginning with *string*. The search works towards the beginning (top) of the file until the first match, or until the pointer is at the top of the file. In the latter case, the message TEXT NOT FOUND will result which means that *string* cannot be located between the line preceding the current line and the first line of the file. If VERIFY status is in effect, the line found is displayed on the workstation.

If *string* is not specified, the same string as specified in the last used FIND, LOCATE, UFIND, ULOCATE, HUNT, or SEARCH command is used.

The command can also be specified as UPFIND or UPF.

Spacing: One blank should be present between the keyword or abbreviation and *string*. It is ignored if present. All other blanks are considered to be part of *string*, which extends to and includes the rightmost non-blank in the command line.

Pointer: Set to the found line, or to the top of the file if no line is found which begins with *string*.

Example: Before: **SAMPLE LINE**
 ANOTHER LINE
 YET ANOTHER <---Pointer
 Command: **UF SA**
 After: **SAMPLE LINE** <---Pointer
 ANOTHER LINE
 YET ANOTHER

ULOCATE [*string*]
UL

ULOCATE is used to find the first line before the current line which contains *string* anywhere in the line and, if in VERIFY mode, to display the line on the workstation. The search begins with the line preceding the current line and works towards the beginning of the file. If *string* does not exist in the file between the line preceding the current line and the first line of the file, the message TEXT NOT FOUND is displayed. The operation of ULOCATE may be affected by the ZONE setting (refer to the description of the ZONE command).

If *string* is not specified, the same string as specified in the last used FIND, LOCATE, UFIND, ULOCATE, HUNT, or SEARCH command is used.

The command can also be specified as UPLOCATE or UPL.

Pointer: Set to the line in which the *string* is found, or to the top of the file, if it is not found.

Spacing: One blank should be present between the keyword or abbreviation and *string*. It is ignored if present. All other blanks are part of *string*, which extends as far as the rightmost non-blank in the command line.

Example: Before: **SAMPLE LINE**
 ANOTHER LINE
 YET MORE <---Pointer
 Command: **UL ER**
 After: **SAMPLE LINE**
 ANOTHER LINE <---Pointer
 YET MORE

UNFORMAT

This macro is used to undo the effect of the **FORMAT** macro. It restores the formatted file back to its unformatted form that was previous to using the **FORMAT** macro.

UNMARK
UNMA

This command unmarks any lines that were previously marked by the **MARK** command. Refer to the topic "Marking a Group of Lines" in the section "Advanced Features".

UNSORT *
UNSORT .

The **UNSORT** editor macro can be used to undo the effects of the immediately preceding **SORT** macro.

You should specify the same parameter (* or .) as you used on the sort command.

UNSORT uses the contents of file @SORT.TMP, which is created by the **SORT** command.

UP [n]
U

This command moves the pointer *n* lines toward the beginning of the file. If in **VERIFY** status, the line at which the pointer is positioned after execution of the command is displayed on the workstation. If *n* is omitted, 1 is assumed.

If the number of lines specified is large enough to cause the line pointer to be moved beyond the first line of the file, the **UP** command has the same effect as a **TOP** command. For example, an immediately following **INSERT** command would insert a line before the first line.

Spacing: The number may appear anywhere in the line after the keyword or abbreviation.

Example: Before: **SAMPLE LINE**
 ANOTHER LINE <--Pointer
 Command: **U**
 After: **SAMPLE LINE** <--Pointer
 ANOTHER LINE

UPPAGE
UPP

This command is used only in 3270 full-screen mode. It shifts the screen display one screen (page) towards the beginning of the file. Refer to the section on full-screen mode for more details. UPPAGE corresponds to F7 by default.

UPWINDOW [n]
UPW

This command applies only to 3270 full-screen mode. It shifts the screen display (window) towards the beginning of the file. The parameter *n* is the number of lines by which the window is to be shifted. If *n* is omitted, 6 lines is assumed.

WINDOW [n]
W [m n]
 [OFF]
 [RIGHT k]
 [LEFT k]
 [FLIP]

This command specifies the starting and ending columns to be displayed by the Editor whenever a line of the file is displayed. This is particularly useful when long records are being edited. The listing of an external file, by the LIST command, is not affected.

m is the starting column number. *n* is the ending column number, and may be specified by an asterisk (*), which means the record length of the file being edited. If only one number is specified, the number is assumed to be *n*, and *m* is assumed to have a value of 1.

If OFF is specified instead of column numbers, the Editor resets the *window* to be the whole line, as it is when the Editor starts.

The option RIGHT or LEFT may be used on the WINDOW command to shift the window towards the right or left hand side of the records being edited. The width of the window is not changed. The parameter *k* is the number of columns by which the window is to be shifted. If *k* is omitted, the window is shifted by the

maximum amount. RIGHT and LEFT may be abbreviated R and L.

The FLIP option causes the window to be shifted to the extreme left or right, whichever is further from the existing window setting. FLIP can be abbreviated FL or F.

When a WINDOW command is used in 3270 full-screen mode, the zone is automatically set to be from column 1 to the end of the window (refer to the ZONE command).

If no parameters are specified, the current window setting is displayed.

The window setting can also be changed by specifying a number *n* on the VERIFY command. In this case, the window setting will become columns 1 to *n*.

When the WINDOW command is used, the portion of a line displayed by the PRINT command defaults to the window setting. The second parameter on the PRINT command may still be used to display more or fewer characters per line starting from column 1.

Spacing: The parameters must be separated from each other by commas or blanks. If OFF, RIGHT or LEFT is specified, it must be separated from the command by at least one blank.

X [n]

The X command causes a predefined set of Editor commands to be executed. The commands are defined by the DEFINE command. For example, if "DEFINE X LOCATE ABC;INSERT ***" is used, then entering the command X causes the commands "LOCATE ABC" and "INSERT ***" to be performed. An X command string may not contain an X command. The X command may be used on all types of workstations.

If parameter *n* is used (a number from 1 to 24), the command string defined for program function key *n* (PF_n) is executed. In this way, function key operations can be defined and used on any type of workstation.

XL string
XUL string
XF string
XUF string

The XL macro locates a character string that you specify. It issues a LOCATE command for the specified character string. However, if the search is unsuccessful, XL does not alter the current line pointer. This has the effect of not altering the current screen when the specified string is not found. If the specified character string is not located, then the current line number is not changed, and a message is displayed indicating that the search failed.

All of the considerations applicable to the LOCATE command apply to the XL macro.

XUL This is the same as the XL macro except that ULOCATE command is used.

XF This is the same as the XL macro except that FIND command is used.

XUF This is the same as the XF macro except that UFIND command is used.

```
ZONE [n]
Z    [FIXED]
```

The ZONE command is used to display the current zone setting, or to change the zone setting. The zone setting defines the ending column for CHANGE and ADD commands, and for commands which may scan for character strings (such as DELETE, FIND, HUNT, UFIND, ULOCATE, LOCATE, SCAN, SPLIT, and SEARCH), including logical expressions. Columns following the ZONE specification are not changed by CHANGE or ADD commands and are not examined when looking for a character string. ZONE does not affect BLANK, OVERLAY and PRINT commands.

When the SPLIT command is used to break a line into two parts, the second part extends only as far as the zone setting. Characters following the zone remain on the first line.

n must be a number from 1 to the record length. * is equivalent to specifying the record length, which is the value assumed when the Editor begins execution. If no parameter is specified, the current zone specification is displayed.

The option FIXED (abbr. F) keeps the zone setting unchanged by later WINDOW, LEFT, RIGHT or FS commands (e.g. ZONE * F). The command ZONE F sets the "fixed zone" option without changing the current zone setting.

```
=
=n
=n/string1/string2/[options]
=.
```

This command, without any parameters, causes the Editor to type the line number of the current line. Lines of the file are numbered consecutively starting at 1. When you see the message *EOF (pointer beyond the end of the file), the number of lines in the file, plus 1, will be displayed.

If a line number *n* is specified with the command, the line pointer moves to the line numbered *n* and the line becomes the new current line. The line is also displayed. For example, =30 makes the line numbered 30 the new current line.

If "=." is specified the Editor moves to the first line in a marked group.

A change request, with or without options, as in the CHANGE command, can be specified following the line number. Refer to the description of the CHANGE command. For example, =30/ABC/XYZ/ causes the line pointer to move to line 30 and the string ABC is changed to XYZ. The changed line is displayed.

Chapter 4. Electronic Mail

Overview of the Mail Facility

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 4.1 - Main Menu of Mail

Description of Main Menu of Mail

The following describes the fields on the screen in figure 4.1.

- | | |
|-----------------|---|
| 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 4.2 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 4.2 - 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 4.3 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 4.3 - 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 4.4 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 4.4 - Reading a Mail Item

In figure 4.4 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 4.5 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-reSume 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 4.5 - 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 4.3 to see an example of viewing mail items.

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 4.6 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 4.6 - 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 4.6 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 4.7 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 4.7 - 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 4.8 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 4.8 - 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 4.9 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 4.9 - 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 <i>MUSIC/SP Internet Guide</i> . |

