SECTION 3   DATA INPUT/OUTPUT OPERATION

1.   NC Program Input/Output Function Using MS-DOS Format Floppy Disk

The MS-DOS format I/O function enables input and output of NC part programs using MS-DOS format 3.5-inch floppy disks.

(1)   Program input and output using this function is possible with the following MS-DOS formats:

- 3.5-inch 2DD floppy disks (640 KB/720 KB)
- 3.5-inch 2HD floppy disks (1.20 MB)
- 3.5-inch 2HD floppy disks (1.23 MB)
- 3.5-inch 2HD floppy disks (1.44 MB)

[Supplement]   1.   "MS-DOS" is a trademark of the Microsoft Corporation.

2.   Even if a 3.5-inch floppy disk can be read and written to at an MS-DOS-compatible personal computer, it may not be possible to read and write to the disk using this function if its format is not a regular one conforming to published MS-DOS literature.

1-1.   Operation Overview

The MS-DOS format I/O function indicates the operation (1) and (2) in the illustration given below.
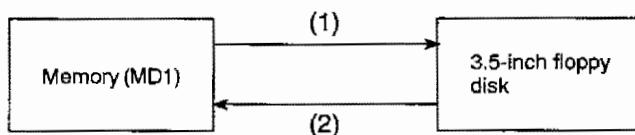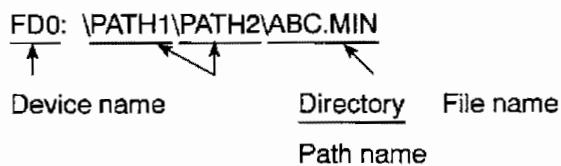
Fig. 3-1 Operation Overview

(1)   In the program operation mode, part programs and other NC data stored in the NC memory are copied to a floppy disk using the copy command.

(2)   In the program operation mode, part programs and other NC data saved in the floppy disk are copied to the NC memory using the copy command.

1-2.   Specifying MS-DOS File Names

MS-DOS file names are specified in the way shown below.

FD0: \PATH1\PATH2\ABC.MIN

Device name   Directory   File name

Path name

[Supplement]   1.   The reverse slash "\" is used as the delimiter between directory names (the "\" following the device name can be omitted).

2.   It is not normally necessary to specify a device name when handling NC files but it is essential to specify one for MS-DOS files.

[Supplement] 3. The total length of the sequence "device name:path-name\file name" must not exceed 64 characters.

4. The length of the path-name must not exceed 47 characters.

5. The file name consists of a main file name (with a maximum length of 8 characters) and an extension name (with a maximum length of 3 characters), and a period "." is used as a delimiter between the main file name and extension. The file name must begin with a letter of the alphabet and the characters that follow it can only be numerals, letters of the alphabet, "." or "-".

1-3. Command List

The list of commands used for the MS-DOS format I/O function are given below.

Item	Command	Function Outline
Directory	DIR	Displays an MS-DOS format directory.
Copying*	COPY	Copies files from MS-DOS format to OSP format and vice versa.
Renaming*	RENAME	Used to change specified file names in the MS-DOS format.
Deletion*	DELETE	Used to delete specified files in the MS-DOS format.
Remaining capacity	FREE	Indicates the remaining memory capacity in the MS-DOS format.
File protection*	PROTECT	Prohibits updating the information of specified files in the MS-DOS format.
Program imput*	IN	Program Input Work program files are input from the MS-DOS formatted floppy disk to the memory disk while deleting any "%" codes.
Program output*	OUT	Work program files are output from the memory disk to an MS-DOS formatted floppy disk. If option "E" is selected, only the "%" record will be added at the beginning and end of the output files.
MS-DOS Quit	QUIT	Used to quit MS-DOS.

The commands indicated by an asterisk (*) are executed on the directory-selection-based file operation screen. The following explanation gives basic information on using these commands. In addition to the basic information given below, there are various functions including the function to display the registered part program files in batch. For details of the functions, refer to Section 2, 15. "Directory-selection-based File Operation Function".

Operation for the commands is described below.
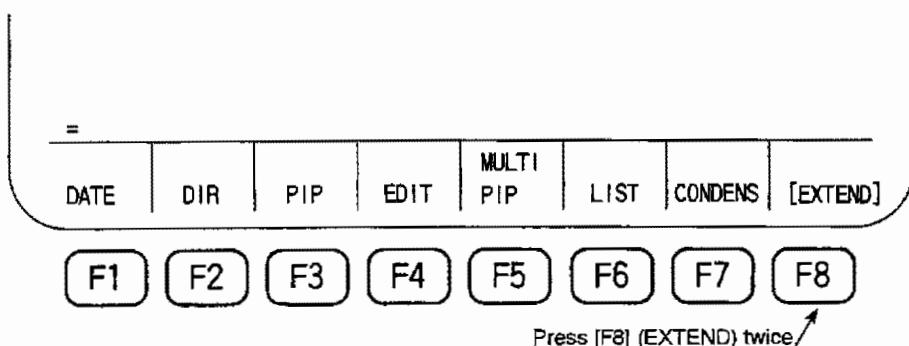
Since all of these commands are executable in the MS-DOS mode, the procedure to set the MS-DOS mode is explained first. Description of the individual commands is given assuming that the MS-DOS has been set.

Procedure used to set the MS-DOS operation mode:

(1) Press the EDIT AUX mode selection key to select the PROG OPERATION mode.
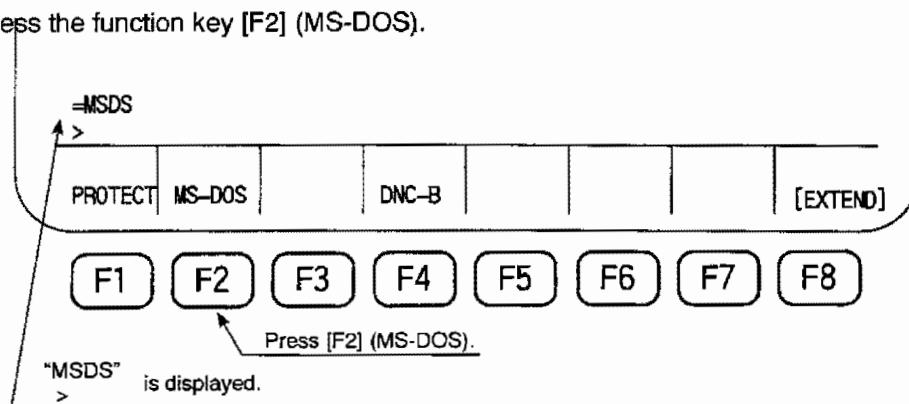
(2) Press the function key [F8] (EXTEND) twice.

				MULTI			
DATE	DIR	PIP	EDIT	PIP	LIST	CONDENS	[EXTEND]

=

(F1) (F2) (F3) (F4) (F5) (F6) (F7) (F8)

Press [F8] (EXTEND) twice
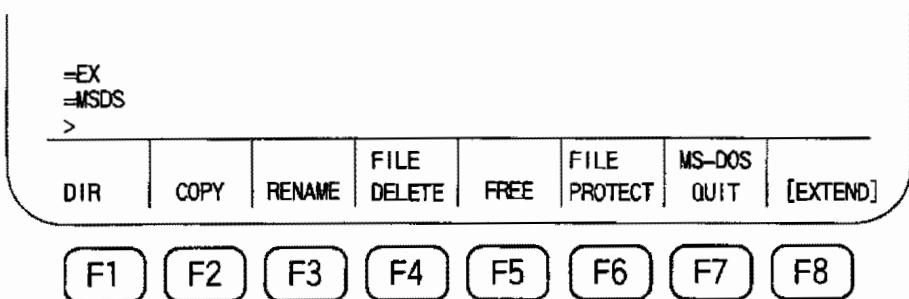
The function names on the screen will change to those given in item (3) below.

(3) Press the function key [F2] (MS-DOS).

=MSDS
>

PROTECT	MS–DOS		DNC–B				[EXTEND]

(F1) (F2) (F3) (F4) (F5) (F6) (F7) (F8)

Press [F2] (MS-DOS).

"MSDS" is displayed.
>

The function names on the screen will change as indicated to the right.

=EX
=MSDS
>

			FILE		FILE	MS–DOS	
DIR	COPY	RENAME	DELETE	FREE	PROTECT	QUIT	[EXTEND]

(F1) (F2) (F3) (F4) (F5) (F6) (F7) (F8)
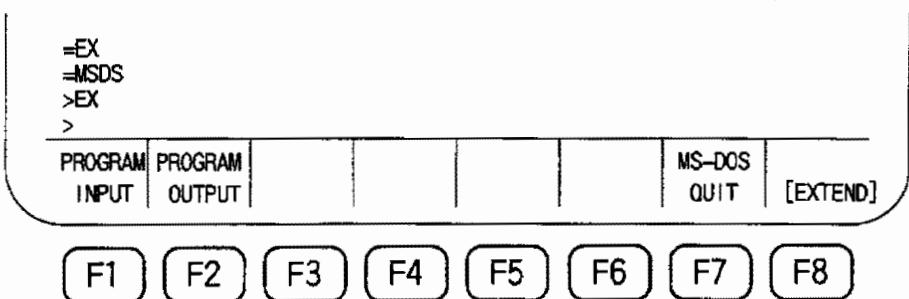
Press function [F8] (EXTEND).

The function names on the screen will change as indicated to the roght

=EX
=MSDS
>EX
>

PROGRAM	PROGRAM					MS–DOS	
INPUT	OUTPUT					QUIT	[EXTEND]

(F1) (F2) (F3) (F4) (F5) (F6) (F7) (F8)

The commands are explained below.
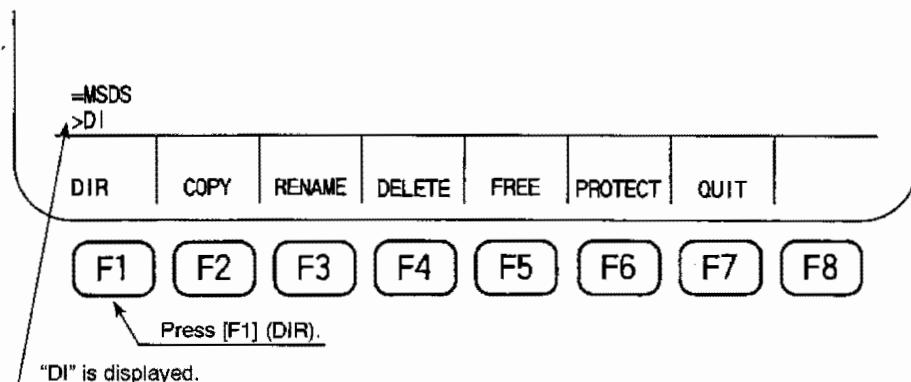
1-4.   DIR (directory)

This function is used to display a list of the files and directories saved in an MS-DOS format floppy disk (FD0:).

The operating procedure is indicated below.

(1)   Press function key [F1] (DIR).

"DI" is displayed on the command line.

(2)   Enter the device name following ">DI" for the device which stores the files.

Example 1:   The following command displays all the directory names and file names in the MS-DOS format floppy disk designated as device "FD0:".

>DI FD0:

Example 2:   The following command displays all the directory names and file names in the directory "PATH" of the disk designated as device "FD0:".

>DI FD0:PATH (or alternatively, >DI FD0:\PATH)
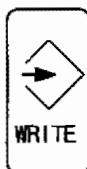
Example 3:   The following command displays all the directory names and file names under the directory "PATH1" which is under the directory "PATH" of the disk designated as device "FD0:".

>DI FD0:PATH\PATH1

Example 4:   The following command format displays all the directory names and file names that start with the character string "F0" in the directory "PATH" of the disk designated as device "FD0:".

>DI FD0:PATH\F0✱

(3)   Press the WRITE key.

[Supplement]   1.   The use of the wild cards "∗" and "?" is only valid for files; an error will occur if either of these symbols is used with a device name or directory name (path name).

2. A maximum of 12 file names and directory names can be displayed on each screen.

If it is not possible to display all the directory and file names on a single screen, the symbol "=" (the command prompt) will not be displayed on the command line and the cursor display will remain unchanged. In this condition:

(a) Pressing the BS key will scroll the screen forward one page.

(b) Pressing the WRITE key will scroll the display continuously in page units until the end of the directory is reached (press BS to stop scrolling part way through).

(c) Pressing the CAN key will terminate execution of the command and leave the currently displayed page.

3. "<DIR>" displayed in the sector column indicates that the entry is a directory.

4. If a file name includes a character other than those indicated below, such a character is replaced with "?" to be displayed.

Space, !, ", #, $, %, &, ', (,), *, +, −, ., /, 0 to 9, :, ;, <, =, >, ?, @, A to Z, [, ¥,], ^, _, a to z, {, |, }, ‾

5. The following options can be specified after the file name. They must be preceded by a semicolon ";".

;P (file protected state is displayed following the date)
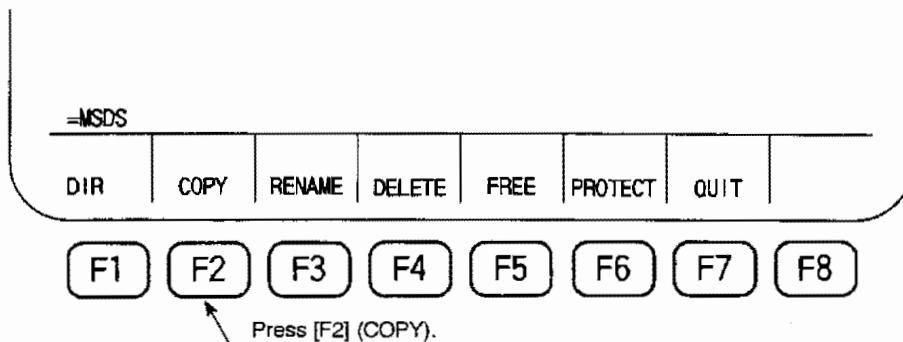
00 :   Not protected
01 :   File protected

1-5.   COPY (copying)

This function copies files from the MS-DOS format to the OSP format and vice versa.
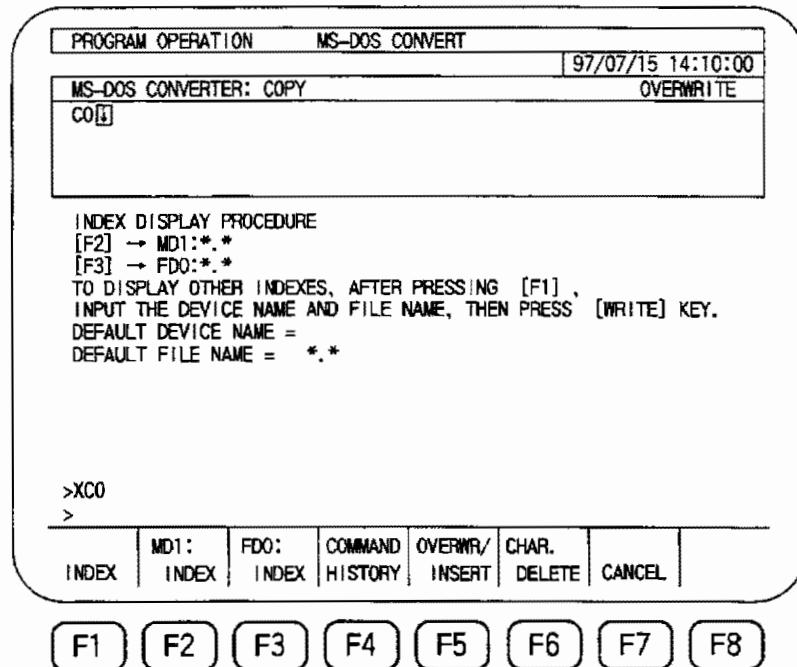
The operating procedure is indicated below.

(1) Press function key [F2] (COPY).

The screen changes to the directory-selection-based file operation screen and the following is displayed on the screen.

MS-DOS CONVERTER: COPY
CO ▓

```
┌──────────────────────────────────────────────────────────┐
│ ┌────────────────────────────────────────────────────┐   │
│ │ PROGRAM OPERATION      MS-DOS CONVERT              │   │
│ │                                  97/07/15 14:10:00 │   │
│ │ MS-DOS CONVERTER: COPY                   OVERWRITE │   │
│ │ CO[↓]                                              │   │
│ │                                                    │   │
│ │                                                    │   │
│ │ INDEX DISPLAY PROCEDURE                            │   │
│ │ [F2] → MD1:*.*                                     │   │
│ │ [F3] → FD0:*.*                                     │   │
│ │ TO DISPLAY OTHER INDEXES, AFTER PRESSING  [F1] ,   │   │
│ │ INPUT THE DEVICE NAME AND FILE NAME, THEN PRESS  [WRITE] KEY. │   │
│ │ DEFAULT DEVICE NAME =                              │   │
│ │ DEFAULT FILE NAME =   *.*                          │   │
│ │                                                    │   │
│ │                                                    │   │
│ │ >XCO                                               │   │
│ │ >                                                  │   │
│ ├──────┬──────┬──────┬────────┬────────┬──────┬──────┤   │
│ │      │ MD1: │ FD0: │COMMAND │OVERWR/ │CHAR. │      │   │
│ │ INDEX│ INDEX│ INDEX│HISTORY │ INSERT │DELETE│CANCEL│   │
│ └──────┴──────┴──────┴────────┴────────┴──────┴──────┘   │
└──────────────────────────────────────────────────────────┘
```

[F1] [F2] [F3] [F4] [F5] [F6] [F7] [F8]

(2) Enter the device name, path name, and file name of the program to be copied.

(a) Use the following command format when copying from MS-DOS format to OSP format:

>CO <device name>:<path name + file name or path name> <device name>:<file name>

If a path name is specified as the copying source, all the files (excluding directories) listed in the directory indicated by that path name will be copied.

(b) Use the following command format when copying from OSP format to MS-DOS format:

>CO <device name>:<file name> <device name>:<path name + file name or path name>

If a path name is specified as the copying destination, the file (or files) is (are) copied into the directory indicated by that path name.

Example 1: The following command copies A.MIN in FD0: (MS-DOS) to MD1: (OSP) under the file name B.MIN.

>CO FD0:A.MIN,MD1:B.MIN

Example 2: The following command copies all files in the directory "PATH" of FD0: (MS-DOS) to MD1: (OSP).

>CO FD0:PATH\∗,MD1:

or

>CO FD0:PATH,MD1:

Example 3: The following command copies all FD0: (MS-DOS) files whose main file names start with the letter C and comprise three characters or less to MD1: (OSP).

>CO FD0:C??.MIN,MD1:

Example 4: The following command copies MAIN files (files without their extension names) from FD0: (MS-DOS) to MD1: (OSP).

>CO FD0:MAIN,MD1:

When this command is used "MIN" is automatically appended as the extension name of the destination file, so that the file name is MAIN.MIN.

Example 5: The following command copies A.MIN of MD1: (OSP) to FD0: (MS-DOS) under the name "B.MIN".

>CO MD1:A.MIN,FD0:B.MIN

Example 6: The following command copies A.MIN of MD1: (OSP) to FD0 (MS-DOS) under the name "C.MIN" under the directory "PATH".

>CO MD1:A.MIN,FD0:PATH\C.MIN

Example 7: The following command copies A.MIN of MD1: (OSP) to FD0: (MS-DOS) under the same file name as it had in the copying source.

>CO MD1:A.MIN,FD0:

Example 8: The following command copies all files whose file names start with "A" in MD1: (OSP) to the directory "PATH" of FD0: (MS-DOS).

>CO MD1:A∗,FD0:PATH

(3) Press the WRITE key.

```
┌─────────┐
│  ╱◇╲    │
│ ◇ → ◇   │
│  ╲◇╱    │
│  WRITE  │
└─────────┘
```

[Supplement] 1. The COPY function can only be used to copy between the OSP format and MS-DOS format. Attempts to copy from OSP to OSP or from MS-DOS to MS-DOS will result in an error.

2. This function has no default device name and it is therefore essential to specify the device name.

3. If no destination file name is specified it is made the same as the source file name.

4. Contiguous OSP format files cannot be overwritten. If an attempt is made to do this the message "file attribute unsame" is displayed.

5. If the specified destination file name already exists, the message "file exist overwrite? (Y/N)" will be displayed. To overwrite the file, enter "Y"; to abort the writing operation, enter "N".

6. If the copied file name contains any characters other than those listed below, these characters will all be replaced by question marks:

Space, !, ", #, $, %, &, ', (,), +, −, ., /, 0 to 9, :, ;, <, =, >, ?, @, A to Z, [, \,], ^, _, a to z, [, |,], -
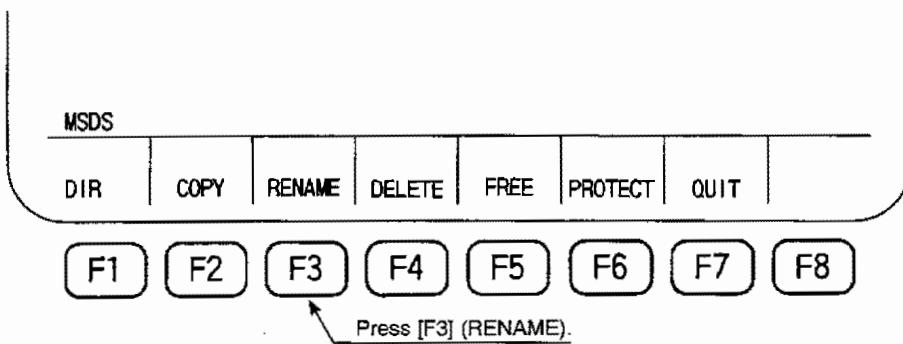
NOTICE	: (1) Copying from OSP format to MS-DOS format is possible for ASCII data files but if this operation is attempted with a binary data file the message "file attribute unsame" is displayed and the copying operation is terminated.

Both ASCII data files and binary data files can be copied from MS-DOS format to OSP format, but binary data files may not be copied accurately.

(2) When copying from MS-DOS format to OSP format, if the MS-DOS file has no extension name, "MIN" is automatically appended to the OSP file name as a default. Similarly, when copying from OSP format to MS-DOS format, the extension name for the MS-DOS file will be "MIN" if no extension name is specified.

(3) The following option can be specified. It must be preceded by a semicolon ";".

;V   Specifies use of the following request for confirmation for each of the files specified for copying:

copy OK? (Y/N)

To copy the file, enter "Y"; to abort the copying operation, enter "N".

1-6.   RENAME (renaming)

This function is used to change the name of an MS-DOS format file. The operating procedure is indicated below.
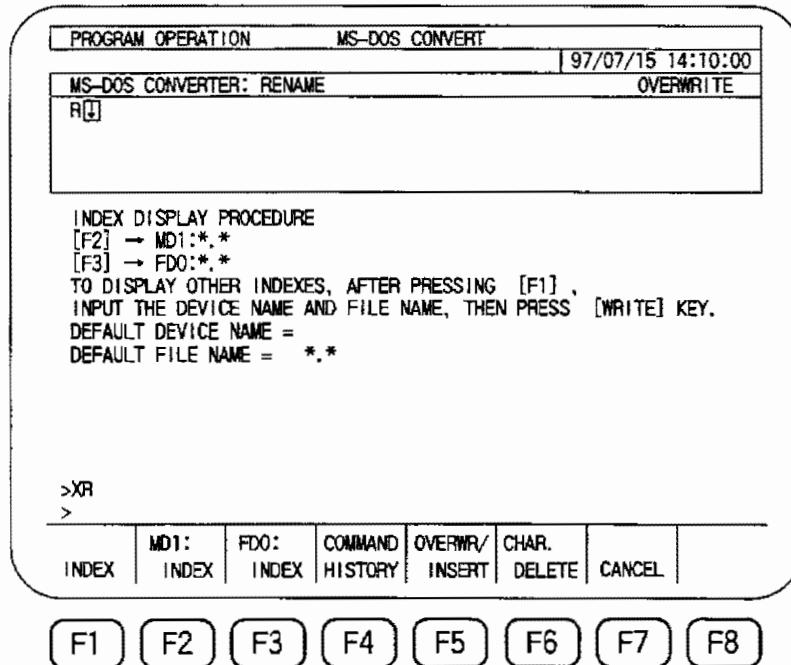
(1)   Press function key [F3] (RENAME).

MSDS

DIR	COPY	RENAME	DELETE	FREE	PROTECT	QUIT	

| F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 |

Press [F3] (RENAME).

The screen changes to the directory-selection-based file operation screen and the following is displayed on the screen.

MS-DOS CONVERTER: RENAME
R █

```
┌─────────────────────────────────────────────────────────────┐
│ ┌──────────────────────────────────────────────────┐        │
│ │ PROGRAM OPERATION        MS-DOS CONVERT           │        │
│ │                                    │ 97/07/15 14:10:00│      │
│ ├──────────────────────────────────────────────────┤        │
│ │ MS-DOS CONVERTER: RENAME                  OVERWRITE│       │
│ │ R[↓]                                               │        │
│ │                                                    │        │
│ │                                                    │        │
│ │ INDEX DISPLAY PROCEDURE                            │        │
│ │ [F2] → MD1:*.*                                     │        │
│ │ [F3] → FD0:*.*                                     │        │
│ │ TO DISPLAY OTHER INDEXES, AFTER PRESSING [F1] ,    │        │
│ │ INPUT THE DEVICE NAME AND FILE NAME, THEN PRESS [WRITE] KEY.│
│ │ DEFAULT DEVICE NAME =                              │        │
│ │ DEFAULT FILE NAME =   *.*                          │        │
│ │                                                    │        │
│ │                                                    │        │
│ │ >XR                                                │        │
│ │ >                                                  │        │
│ ├──────┬──────┬──────┬────────┬────────┬──────┬──────┬──────┤ │
│ │      │ MD1: │ FD0: │ COMMAND│ OVERWR/│ CHAR.│      │      │ │
│ │ INDEX│ INDEX│ INDEX│ HISTORY│ INSERT │ DELETE│CANCEL│      │ │
│ └──────┴──────┴──────┴────────┴────────┴──────┴──────┴──────┘ │
└─────────────────────────────────────────────────────────────┘
```

[F1] [F2] [F3] [F4] [F5] [F6] [F7] [F8]

(2) Enter the file name (including the device name and path name) of the MS-DOS format file whose name is to be changed and the file name (not including the device name and path name) that it is to be changed to.

   Example: The following command changes the file name FD0:PATH\PATH1\FILE to the file name FD0:PATH\:PATH1:FILE1.

   >R FD0:PATH\PATH1\FILE,FILE1

(3) Press the WRITE key.

```
  ┌──────┐
  │  ◇   │
  │ ─●→  │
  │  ◇   │
  │ WRITE│
  └──────┘
```
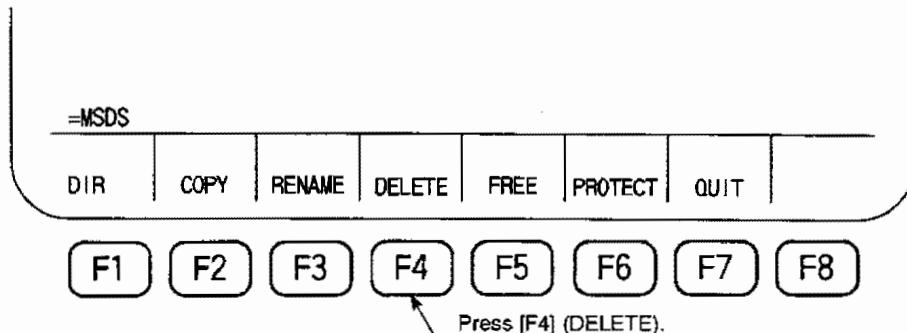
[Supplement]   1.   If the specified file (current file name) does not exist in the floppy disk, the message "no file" is displayed on the console lines and the renaming operation is terminated.

2.   If a file with the same name as that specified for the file after the change already exists in the floppy disk, the message "file exist" is displayed on the console lines and the renaming operation is terminated.

3.   The wild cards "*" and "?" cannot be used in the file names (their use will cause an error).

4.   Specify only the file name (with no device name or path name) for the file name after the change. An error will occur if a device name or path name is specified.

5.   If the specified file is a directory, the message "directory" is displayed on the console lines and the renaming operation is terminated.

1-7.   DELETE (delete)

This function is used to delete MS-DOS format files.
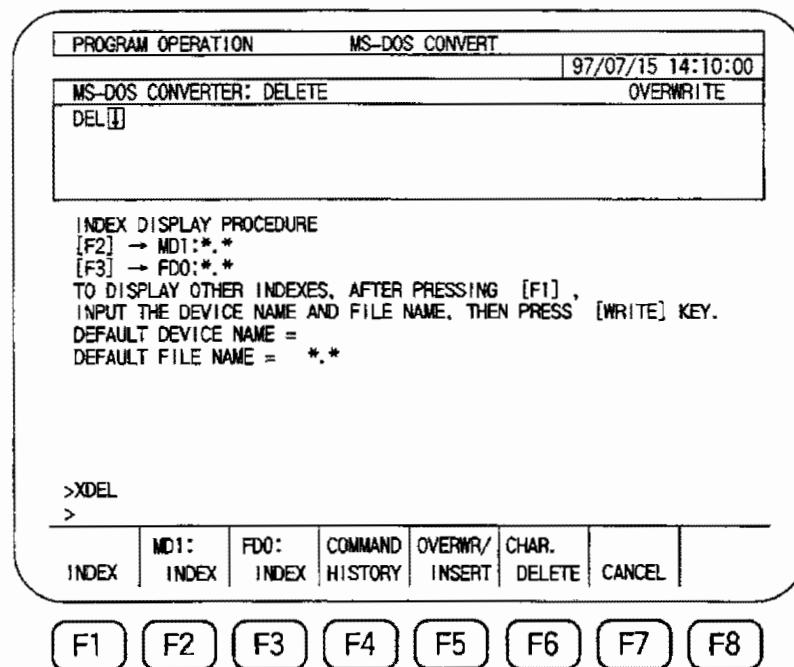
The operating procedure is indicated below.

(1) Press function key [F4] (DELETE).

```
=MSDS
┌───────┬───────┬────────┬────────┬──────┬─────────┬──────┬──────┐
│ DIR   │ COPY  │ RENAME │ DELETE │ FREE │ PROTECT │ QUIT │      │
└───────┴───────┴────────┴────────┴──────┴─────────┴──────┴──────┘
```

(F1) (F2) (F3) (F4) (F5) (F6) (F7) (F8)

Press [F4] (DELETE).

The screen changes to the directory-selection-
based file operation screen and the following is displayed on the screen.

MS-DOS CONVERTER: DELETE
DEL ▓

```
┌──────────────────────────────────────────────────────────────────┐
│ PROGRAM OPERATION          MS-DOS CONVERT                          │
│                                              │97/07/15 14:10:00│   │
│ MS-DOS CONVERTER: DELETE                              OVERWRITE    │
│ DEL[↓]                                                             │
│                                                                    │
│                                                                    │
│  INDEX DISPLAY PROCEDURE                                           │
│  [F2]  →  MD1:*.*                                                  │
│  [F3]  →  FD0:*.*                                                  │
│  TO DISPLAY OTHER INDEXES, AFTER PRESSING  [F1] ,                  │
│  INPUT THE DEVICE NAME AND FILE NAME, THEN PRESS  [WRITE] KEY.     │
│  DEFAULT DEVICE NAME =                                             │
│  DEFAULT FILE NAME =    *.*                                        │
│                                                                    │
│                                                                    │
│ >XDEL                                                              │
│ >                                                                  │
│ ┌───────┬───────┬───────┬─────────┬─────────┬────────┬────────┬──┐│
│ │       │ MD1:  │ FD0:  │ COMMAND │ OVERWR/ │ CHAR.  │        │  ││
│ │ INDEX │ INDEX │ INDEX │ HISTORY │ INSERT  │ DELETE │ CANCEL │  ││
│ └───────┴───────┴───────┴─────────┴─────────┴────────┴────────┴──┘│
└──────────────────────────────────────────────────────────────────┘
```

(F1) (F2) (F3) (F4) (F5) (F6) (F7) (F8)

(2) Enter the file name (including the device name and path name) of the MS-DOS format file that
is to be deleted.

Example 1: The following command deletes the file FILE.MIN in device "FD0:".

>DEL FD0:FILE.MIN

Example 2: The following command deletes the file FILE2.MIN in the directory "PATH" of
device "FD0:".

>DEL FD0:PATH\FILE2.MIN

Example 3: The following commands delete all files in the directory "PATH" of device "FD0:".

>DEL FD0:PATH*.*

or

>DEL FD0:PATH

In this case, because a directory has been specified as the file name to be deleted, all the files contained in that directory ("PATH"), except directories, will be deleted.

In order to make this clear, the request for confirmation "delete OK? (Y/N)" is displayed on the console lines.

(3) Press the WRITE key.

[Supplement]   1.   The wild cards "*" and "?" can be used in the file name (wild cards cannot be used in path names).

2.   If no option is specified deletion is executed unconditionally (unless it is a path name that is specified for deletion).

3.   Directories cannot be deleted.

4.   Files protected by the file protection function cannot be deleted.

5.   The following option can be specified. It must be preceded by a semicolon ";".

. ;V   Specifies the use of a request for confirmation when an attempt is made to delete a file.

To delete the file, enter "Y"; to abort the deleting operation, enter "N".
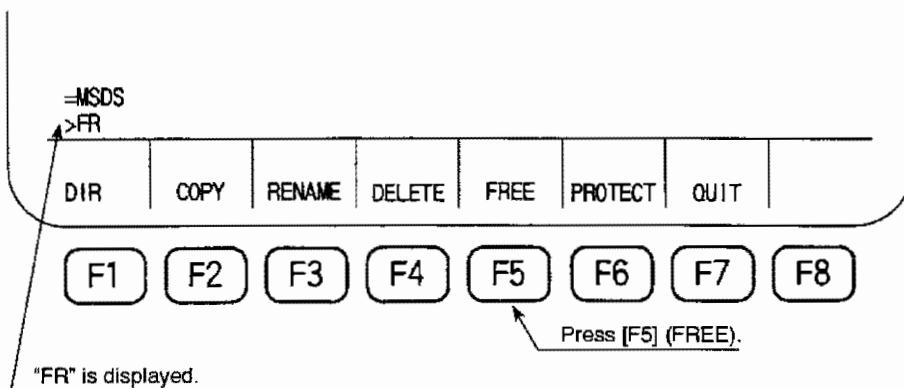
1-8.   FREE (free)

This function displays the available capacity in an MS-DOS format floppy disk.

The operating procedure is indicated below.

(1)   Press function key [F5] (FREE).

"FR" is displayed on the command line.

(2) Enter the device name.

    Example: The following command displays the available capacity of device "FD0:".

       >FR FD0:

(3) Press the WRITE key.

[Supplement] Never specify any more than a device name in the command.
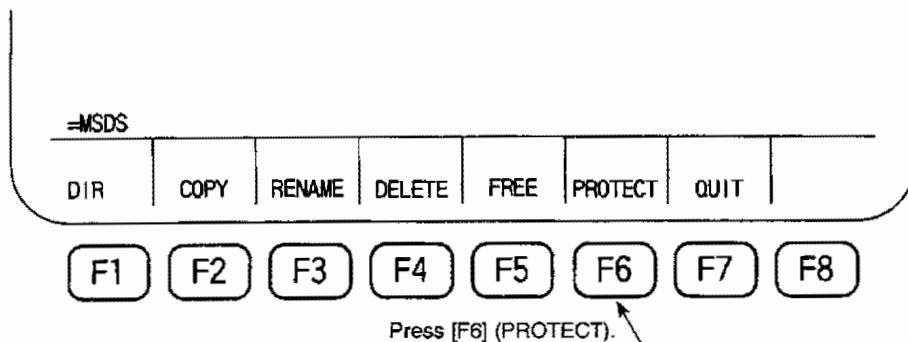
1-9. PROTECT (protect)

This function establishes, and cancels, write protection for MS-DOS files (it is equivalent to the ATTRIB function in MS-DOS).

When a file is protected it cannot be renamed, deleted, or overwritten by copying.
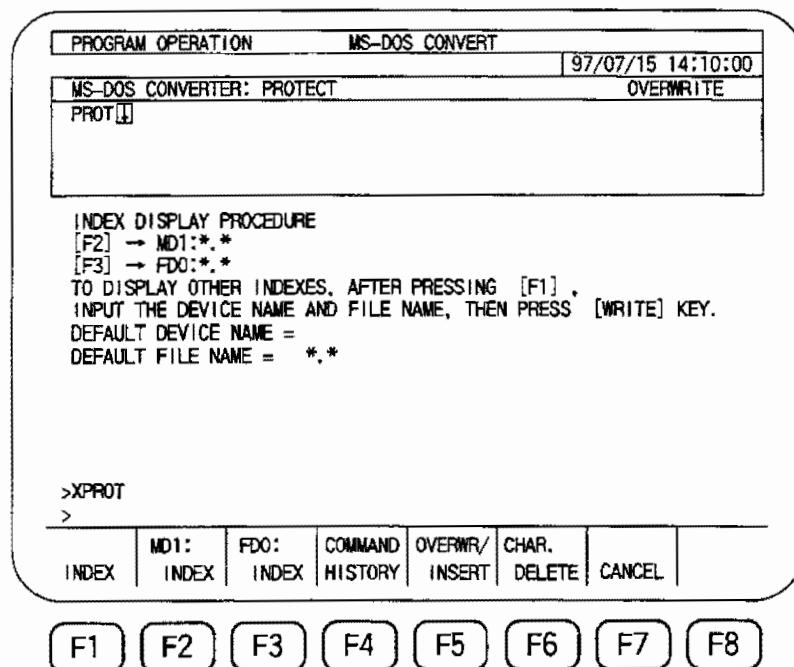
The operating procedure is indicated below.

(1) Press function key [F6] (PROTECT).

```
=MSDS
┌──────┬──────┬────────┬────────┬──────┬─────────┬──────┬──────┐
│ DIR  │ COPY │ RENAME │ DELETE │ FREE │ PROTECT │ QUIT │      │
└──────┴──────┴────────┴────────┴──────┴─────────┴──────┴──────┘
```

(F1) (F2) (F3) (F4) (F5) (F6) (F7) (F8)

Press [F6] (PROTECT).

The screen changes to the directory-selection-based file operation screen and the following is displayed on the screen.

MS-DOS CONVERTER: PROTECT
PROT▓

```
┌──────────────────────────────────────────────────────────────┐
│ │PROGRAM OPERATION        MS-DOS CONVERT                      │
│ │                                          97/07/15 14:10:00  │
│ │MS-DOS CONVERTER: PROTECT                        OVERWRITE   │
│ │PROT⊡                                                        │
│ │                                                            │
│ │                                                            │
│ │                                                            │
│ │ INDEX DISPLAY PROCEDURE                                     │
│ │ [F2] → MD1:*.*                                              │
│ │ [F3] → FD0:*.*                                              │
│ │ TO DISPLAY OTHER INDEXES, AFTER PRESSING  [F1] ,            │
│ │ INPUT THE DEVICE NAME AND FILE NAME, THEN PRESS  [WRITE] KEY.│
│ │ DEFAULT DEVICE NAME =                                       │
│ │ DEFAULT FILE NAME =   *.*                                   │
│ │                                                            │
│ │                                                            │
│ │ >XPROT                                                      │
│ │ >                                                          │
│ ├───────┬───────┬───────┬─────────┬─────────┬────────┬────────┤
│ │       │ MD1:  │ FD0:  │ COMMAND │ OVERWR/ │ CHAR.  │        │
│ │ INDEX │ INDEX │ INDEX │ HISTORY │ INSERT  │ DELETE │ CANCEL │
│ └───────┴───────┴───────┴─────────┴─────────┴────────┴────────┘
└──────────────────────────────────────────────────────────────┘
```

(F1) (F2) (F3) (F4) (F5) (F6) (F7) (F8)

(2) Enter the file name (including the device name and path name).

Example 1: The following command protects the file FILE.MIN in device "FD0:".

>PROT FD0:FILE.MIN

Example 2: The following command protects all files with the extension name MIN in device "FD0:".

>PROT FD0:*.MIN

Example 3: The following command cancels protection for the file FILE.MIN in device "FD0:".

>PROT FD0:FILE.MIN;C

Example 4: The following command protects all files in the directory "PATH" of device "FD0:".

>PROT FD0:PATH*.*

(3) Press the WRITE key.

[Supplement]   1.   The wild cards "*" and "?" can be used in file names.

2.   If the specified file is a directory, the message "directory" is displayed on the console lines and the file protection operation is terminated.

3.   If the option V (;V) is not specified, files will be protected (or have their protection canceled) unconditionally.

4.   The following options can be specified. They must be preceded by a semicolon ";".

;C   Cancels file protection.

;V   Specifies use of a request for confirmation of whether or not the file may be protected (or have its protection canceled).

If the file may be protected or file protection may be canceled, enter "Y"; to abort the file protection or protection cancellation operation, enter "N".
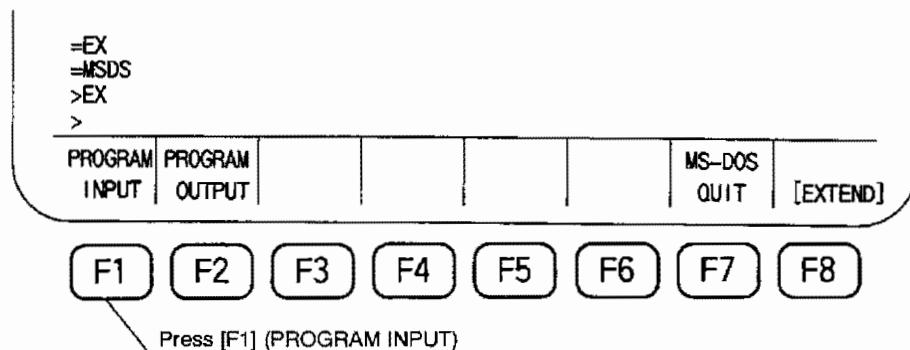
1-10. Special Input/Output Function For Work Program Files

1-10-1. Program Input

Work program files are input from the MS-DOS formatted floppy disk to the memory disk while deleting any "%" codes which may exist within, or at the beginning of the files.
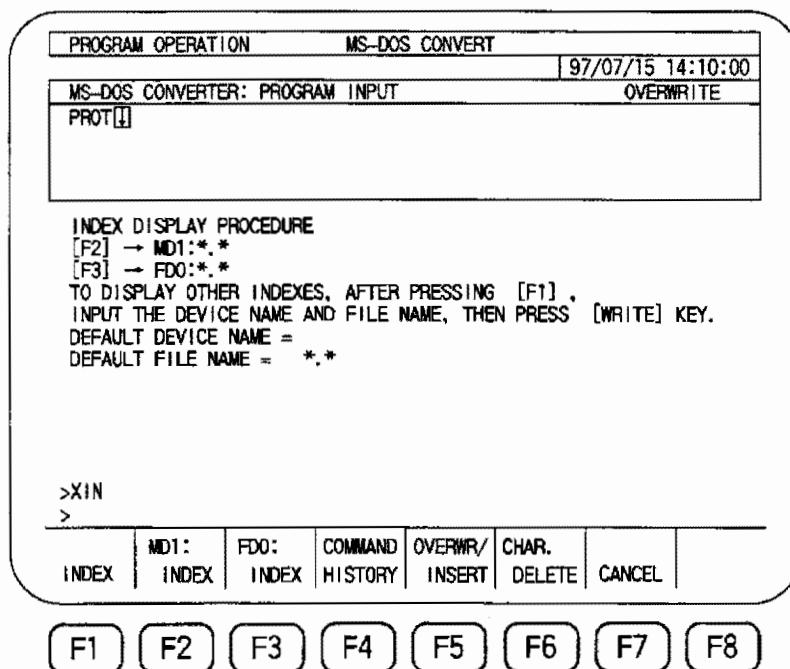
The operation procedure is indicated below.

(1) Press function key [F1] (PROGRAM INPUT)

```
=EX
=MSDS
>EX
>
```

| PROGRAM INPUT | PROGRAM OUTPUT | | | | | MS–DOS QUIT | [EXTEND] |

F1 F2 F3 F4 F5 F6 F7 F8

Press [F1] (PROGRAM INPUT)

The screen changes to the directory-selection-based file operation screen and the following is displayed on the screen.

MS-DOS CONVERTER: PROGRAM INPUT
IN

```
PROGRAM OPERATION        MS–DOS CONVERT
                                        97/07/15 14:10:00
MS–DOS CONVERTER: PROGRAM INPUT              OVERWRITE
PROT[ ]



INDEX DISPLAY PROCEDURE
[F2]  →  MD1:*.*
[F3]  →  FD0:*.*
TO DISPLAY OTHER INDEXES, AFTER PRESSING  [F1] ,
INPUT THE DEVICE NAME AND FILE NAME, THEN PRESS  [WRITE] KEY.
DEFAULT DEVICE NAME =
DEFAULT FILE NAME =    *.*




>XIN
>
```

| INDEX | MD1: INDEX | FD0: INDEX | COMMAND HISTORY | OVERWR/ INSERT | CHAR. DELETE | CANCEL | |

F1 F2 F3 F4 F5 F6 F7 F8

(2) Enter the device name, path name, and file name for the work program which is to be input.

IN <MS-DOS format device name:> <MS-DOS format path name + file name, or file name>, <OSP format device name:> <OSP format file name>; <option>

With the exception of the following points, operation is identical to the COPY function.

- In order be executed as a work program, the "%" codes within, or at the beginning of the files, are deleted.

- "FD0:", "FD1:", "FD2:", and "FD3:" may be designated as the

  If no device name is designated, "FD0:" will be adopted.

  If any device name other than those shown above is designated, an error will occur.

- "MD0:", "MD1:", and "MD✳:" (✳ = A-H) may be designated as the

  If no device name is designated, "MD1:" will be adopted.

  If any device name other than those shown above is designated, an error will occur.

Example:

|		
IN ABC.MIN	⟶	CP FD0:ABC.MIN, MD1:
		+ % codes deleted
IN ABC.DIR\	⟶	CP FD0:ABC.DIR\, MD1:
		+ % codes deleted
IN FD0:\✳.MIN	⟶	CP FD0:\✳.MIN,MD1:
		+ % codes deleted
IN ABC.DIR\ABC.MIN, ;V	⟶	CP FD0:ABC.DIR\ABC.MIN, MD1: ; V
	⟶	+ % codes deleted
IN MD1:ABC.MIN	⟶	× (Error)
IN FD1:ABC.MIN,FD0:	⟶	× (Error)
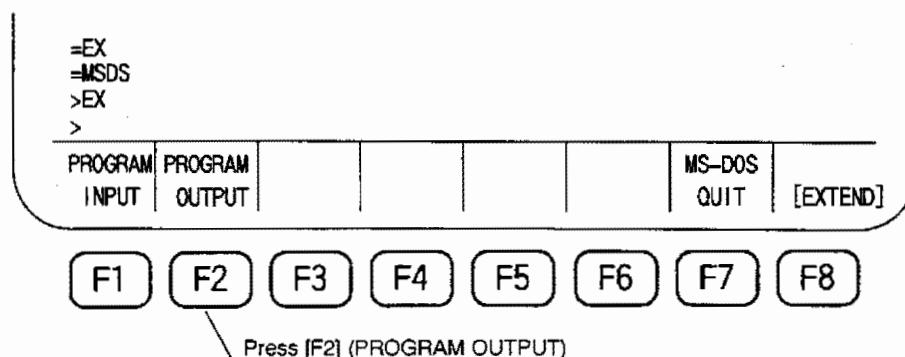
1-10-2. Program output

Work program files are output from the memory disk to an MS-DOS formatted floppy disk.

If option "E" is selected, only the "%" record will be added at the beginning and end of the output files.
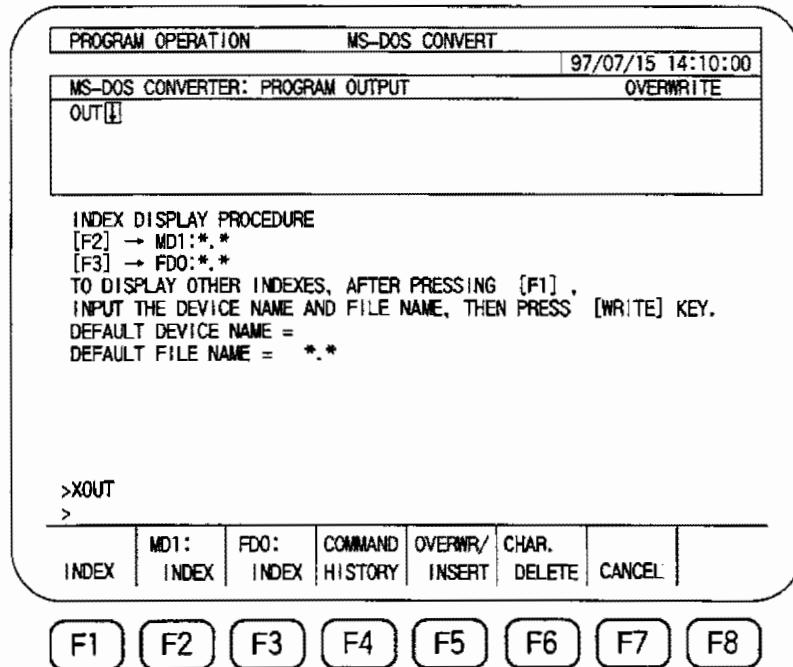
The operation procedure is indicated below.

(1) Press function key [F2] (PROGRAM OUTPUT)

```
=EX
=MSDS
>EX
>
PROGRAM  PROGRAM                              MS-DOS
 INPUT    OUTPUT                               QUIT    [EXTEND]
```

[F1] [F2] [F3] [F4] [F5] [F6] [F7] [F8]

Press [F2] (PROGRAM OUTPUT)

The screen changes to the directory-selection-based file operation screen and the following is displayed on the screen.

MS-DOS CONVERTER: PROGRAM OUTPUT
OUT ▓

```
┌─────────────────────────────────────────────────────────┐
│  ┌───────────────────────────────────────────────────┐  │
│  │ PROGRAM OPERATION          MS-DOS CONVERT         │  │
│  │                                    97/07/15 14:10:00│  │
│  │ MS-DOS CONVERTER: PROGRAM OUTPUT          OVERWRITE│  │
│  │ OUT[]                                             │  │
│  │                                                   │  │
│  │                                                   │  │
│  │                                                   │  │
│  │ INDEX DISPLAY PROCEDURE                           │  │
│  │ [F2] → MD1:*.*                                    │  │
│  │ [F3] → FD0:*.*                                    │  │
│  │ TO DISPLAY OTHER INDEXES, AFTER PRESSING  [F1] ,  │  │
│  │ INPUT THE DEVICE NAME AND FILE NAME, THEN PRESS [WRITE] KEY.│  │
│  │ DEFAULT DEVICE NAME =                             │  │
│  │ DEFAULT FILE NAME =   *.*                         │  │
│  │                                                   │  │
│  │                                                   │  │
│  │ >XOUT                                             │  │
│  │ >                                                 │  │
│  │────┬─────┬─────┬───────┬───────┬──────┬──────┬────│  │
│  │    │ MD1:│ FD0:│COMMAND│OVERWR/│CHAR. │      │    │  │
│  │INDEX│INDEX│INDEX│HISTORY│INSERT │DELETE│CANCEL│   │  │
│  └───────────────────────────────────────────────────┘  │
└─────────────────────────────────────────────────────────┘
```

(F1)(F2)(F3)(F4)(F5)(F6)(F7)(F8)

(2) Enter the device name, path name, and file name for the work program which is to be output.

OUT <OSP format device name:> <OSP format file name>, <MS-DOS format device name:> <MS-DOS format file name>; <option>

With the exception of the following points, copying occurs in the same manner.

- "MD0:", "MD1:", and "MD∗:", (∗: A to H) may be designated as the

   If no device name is designated, "MD1:" will be adopted.

   If any device name other than those shown above is designated, an error will occur.

- "FD0:", "FD1:", "FD2:" and "FD3:", may be designated as the

   If no device name is designated, "FD0:" will be adopted.

   If any device name other than those shown above is designated, an error will occur.

- Option "E" may be designated. If designated, only the "%" record will be added at the beginning and end of the output files.

Example:

OUT ABC.MIN	⟶	CP MD1:ABC.MIN, FD0:
OUT ABC.MIN;E	⟶	CP MD1:ABC.MIN,FD0:
		+ % codes deleted
OUT MD1:✳.MIN;V	⟶	CP MD1:✳.MIN,FD0:;V
OUT MD1:✳.MIN;VE	⟶	CP MD1:✳.MIN,FD0:;V
		+ % codes deleted
OUT ABC.MIN,ABC.DIR\	⟶	CP MD1:ABC.MIN,FD0:ABC.DIR\
OUT ABC.MIN,ABC.DIR\;E	⟶	CP MD1:ABC.MIN,FD0:ABC.DIR\
		+ % codes deleted
OUT FD0:ABC.MIN	⟶	× (Error)
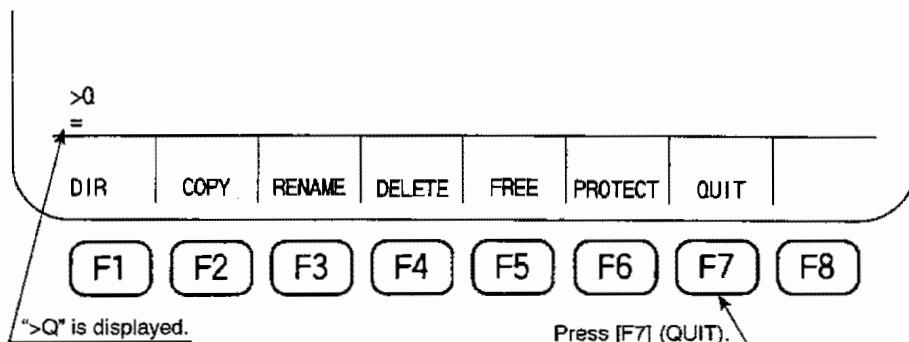
1-11. Quitting MS-DOS

This function quits the MS-DOS operation mode.

(1) Press function key [F7] (QUIT).

"$>$Q" is displayed on the command line.

"=" will be displayed to indicate the completing of quit.

1-12. Character Codes

(1) Carriage Return Character

In MS-DOS the carriage return character comprises two bytes for CR and LF ($0D, $0A).

In NC there is only LF ($A).

The NC converts carriage return characters internally.

(2) File End Character

In MS-DOS the character ^Z ($1A) that indicates the end of a file is normally appended at the end of each file. There are cases in which this character is not appended.

If this character appears part way through a file, all the data following it is ignored.

(3) Treatment of Non-ASCII Characters etc. by NC

Some codes that are not used in ASCII (most significant bit = 1) are used for European languages. The NC cannot handle non-ASCII codes like these. When a file is read into the NC, any non-ASCII codes that it contains (including control codes other than the carriage return code) are replaced by question marks "?".

In addition, since the file end character may appear as the second byte of a two-byte character, the NC cannot determine whether it is the file end character or a second byte. The file end character is therefore ignored.

1-13. Miscellaneous Cautions

(1) If the destination file name in a copying operation already exists, the existing file is normally overwritten. However, if for some reason the copying operation cannot be completed normally and the copy of the source file cannot be created, this will mean that the existing file (which was being overwritten) is deleted. If this happens, the error message indicating the cause of the copying failure is displayed, then the following message is displayed on the console lines:

"<deleted file name> deleted"

Note, however, that – depending on the timing of the deletion of the existing file and the creation of the new one – this message can sometimes be displayed even when the file is successfully overwritten.

(2) When copying a file from the MS-DOS format to the NC, if the file name specified in the NC is the same as that of a program that is currently selected for automatic operation, and the program selection method was B, S, or M, an error will occur.

Similarly, an error will also occur if a file being processed by the schedule program automatic update function is specified.

(3) The floppy disk used with the MS-DOS format I/O function must be MS-DOS formatted.

An error will occur if a floppy disk that is not MS-DOS formatted is used. (But note that, for copying, either the source or destination must be OSP format.)

(4) Specifications such as "✳A.MIN", where the wild card is used as the first character, are treated in the same way as "✳.MIN".

(5) If a directory is specified when using the DIR, COPY, or DELETE function, all the files contained in that directory will be subject to the specified operation. If a directory is specified for the RENAME or PROTECT function the message "directory" will be displayed on the console lines and the operation will be aborted because it is only possible to rename or protect one file at a time.

(6) Meaning of the wild card "∗" under different functions

DIR   : Both "∗" and "∗.∗" specify all file names with and without extension names.

DELETE   : "∗" specifies file names without extension names and "∗.∗" specifies file names with extension names only.

PROTECT: "∗" specifies file names without extension names and "∗.∗" specifies file names with extension names only.

COPY   : "∗" specifies file names without extension names and "∗.∗" specifies file names with extension names only.