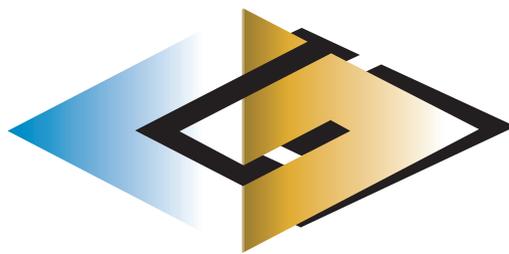


Greco Systems

CNC Station

Operation Manual

OM-6069



Greco Systems

A division of e-DNC Inc.

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WARRANTY POLICY

POLICY

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RETURN MATERIAL AUTHORIZATION

All equipment returned for Warranty repairs require a Return Material Authorization (RMA) number to be issued by Greco Systems prior to shipping the equipment. To obtain this number, the Buyer/End User must provide Greco Systems with the following information:

- Greco Customer/End User name;
- Greco Customer/End User contact and telephone number;
- Product model and serial numbers(s);
- Product cable number(s), if applicable;
- A description of the problem;
- A Purchase Order number for return shipping charges; and
- The mode of return shipment.

For non-warranty repairs, the following additional information is required:

- A Purchase Order number for repair charges and return shipping charges;
- A "not to exceed" price; and
- Whether to call with charges before shipping.

SAFETY PRECAUTIONS

Protect yourself. Follow these precautions:

- Do not bypass the power cord's ground lead with two wire extension cords or plug adapters.
- Do not plug in the AC power cord until directed to do so by the installation instructions.
- Do not repair the equipment unless qualified in working with hazardous voltages.
- Heed the **WARNING** statements. These statements point out situations that can cause injury or death.
- Heed the **CAUTION** statements. These statements point out situations that can cause equipment damage.

1.0 INTRODUCTION

Greco Systems' CNC Station is a versatile NC/CNC part program management system that can also be used as an integral part of a DNC network. The CNC Station's powerful capabilities allow part programs to be manually created or edited directly at the machine tool control with the added benefit of increasing storage for older controls. The CNC station interfaces to virtually any NC/CNC control utilizing pre-programmed communication protocols and the industry's largest library of interface applications. The CNC Stations' compact shop-hardened design coupled with its superior capabilities will increase the productivity of any job shop while maximizing machine tool functionality.

2.0 GETTING STARTED

The CNC Station provides many features, which you may want to try at a later time. This section provides the steps necessary to get the CNC Station operational. Additional information about the system set-up and configuration is provided in Section 9.

2.1 POWER UP

Unpack the CNC Station and plug the unit into a 120 or 220 VAC power source. Power-on the CNC station and the Start-up screen should appear. If the screen appears blank press **shift-DEL**, then press **F6** a number of times until you can read the display. This will adjust the viewing angle of the screen display. Press the **ESC** key until you are back at the Main Menu.

2.2 CONFIGURE COMMUNICATION PARAMETERS

IMPORTANT!!! Refer to the Applications Note(s) supplied with your CNC Station for detailed instructions and parameter settings for your particular installation. If you do not have these notes, contact the Customer Service department at Greco Systems for assistance.

In general, perform the following steps:

- Select the Active Comm Port on the Setup: CNC Station Options screen.
- If you select *Serial Channel 0 or 1*, set the following parameters to the proper values on the Setup: Serial Channel X screen,
 - Protocol
 - Baud Rate
 - Auto Enables
 - Character Format (which includes data bits, stop bits, and parity)

If protocol is "16) MAZAK CONVER", also set the Mazak Terminators on the Setup: Protocol Options screen

- If you selected the *Parallel port*, setup the following parameters to the proper values: On the Setup: Parallel (2) screen,
 - Reader Speed
 - Config Erg
 - Switch Reg.
 - Leader/Trailer character

On the Setup: Protocol Options screen,

- Looping
- Send nulls in text

- In all cases setup the following parameters to the proper values:

On the Setup: Protocol Options screen

- Data mode
- EIA mode
- End-of-line characters

On the Setup: Default Drives screen,

- Send/Data (Comm) Drive

- Save the parameters to disk or to internal EEPROM storage, on the Setup Control Menu.

MINIFILE SETUP		
Set the Minifile parameters as follows:		
COMMAND	ARGUMENT	
Channel 0 Protocol	10#	FANUC
Channel 0 Baud Rate	9600#	9600 Baud
Selected Channel	0#	Channel 0 Active
Store Parameters		

The CNC Station does not provide the Minifile's '#' commands but has menu items that correspond to the '#' parameters (see Appendix 1 for a translation table). So given the above example, you need to set the Channel 0 Protocol to 10) FANUC, the Channel 0 Baud Rate to 9600, and the Selected Channel to 0. Then store the parameters to permanent storage.

To setup the CNC Station per the above applications note:

- If necessary, return to the Main Menu.
- Press the F6 ("Special Functions") key.
- Press the F1 ("Setup Control") key.
- Press the F6 ("View/Change SETUP") key.
- Press the PgDn key.
- Hold the SHIFT key and press F6 until "Active Comm Channel" is Serial CH 0".
- Press the PgDn key.
- Hold SHIFT and press F1 until "Protocol" is "10>FANUC".
- If necessary, hold SHIFT and press F2 until "Baud Rate" is 9600.
- Press the ESC key.
- Hold SHIFT and press F1 to "Save setup to permanent storage".
- Press ESC twice more to return to the Main Men.

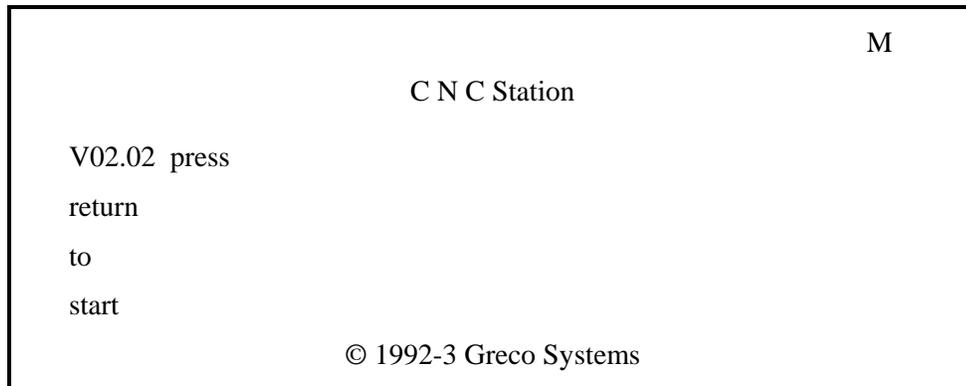
2.3 CABLE CONNECTION

Make sure the communications cable from the machine tool control is connected to the proper channel of the CNC Station (0,1, or 2) as specified in the applications note. The channel numbers are labeled on the connector panel of the CNC Station.

2.4 START-UP SCREEN

Session: Main

Path from Main Menu: **Ctrl-RET**



This screen shows the product name, copyright notice, network type, and the version level of the internal software. The actual version number shown will vary as the firmware is updated.

Ctrl-C Brings up the CNC Station H/W Configuration screen.

RETURN Brings up the Main Menu.

2.5 KEYBOARD

Most of the keys on the keyboard are functional. However, the following keys are not implemented because their functions are not supported by the CNC Station hardware, or because other keys provide that functionality.

NUM LOCK

SCR LOCK

PRTSC

BREAK/PAUSE

ALT

FN

Some of the other keys only work in certain menus, screens or modes. Typical of these are the function keys **F1** through **F10**, the arrow keys, **PgUp**, **PgDn**, **Home** and others.

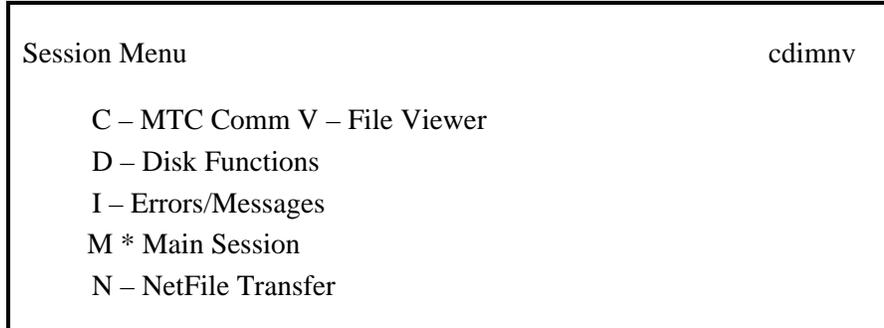
The **CAPS LOCK** key works, but some editable items force everything to upper case for compatibility with DOS directories and other system interfaces.

3.0 SESSIONS

Session Menu

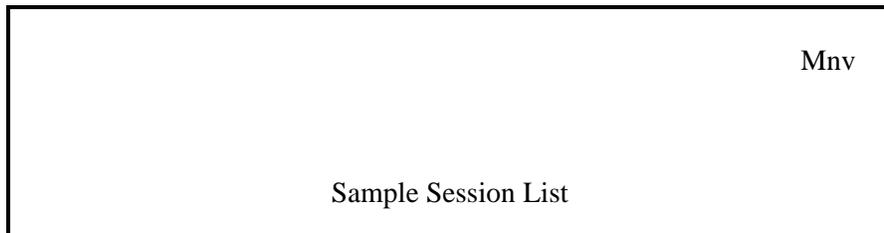
Session: none

Path from anywhere: **Ctrl-space**



The CNC Station has a very useful feature called “sessions”. You can use every function of the CNC Station without understanding sessions, but you can use only one function at a time. Understanding sessions allows you to do more than one thing at a time.

The *Session List* is located on the right end of the top line of the screen. It is always displayed, no matter what else is going on. The list is composed of one or more letters, in alphabetical order. Each letter represents one active session. The letter representing the session you are currently in is UPPER case, all the rest are in lower case.



The CNC Station menu tree is broken up into several sections. Each section is handled by a different session. Each session can perform a function at the same time as other sessions. The menu tree is setup such that you can use all of the functions, one at a time, and the sessions are switched automatically.

If you watch the Session List while you move around the menu tree, you will notice that at certain points, letters come and go. Each letter represents an active session. Each session is activated and deactivated as you move in and out of its portion of the menu tree.

While a function is being performed by one session, another session can do something else.

The contents of this menu vary, depending on what sessions are active. This example shows about the most you will ever see. The Main Session will always be present. Note that all of the letters in the Session List are lower case. This shows that you are not in any session.

The session with the asterisk “*” between its ID and description is the session that you just left.

Space Switch to the next session in the list (the one after the one with the asterisk).

RETURN Returns to whatever session you were in (the one with the asterisk).

ID letter Switches directly to the session matching the letter you typed. It must be one of those shown on the menu, which only includes active sessions.

ESC Switches directly to the Main Session.

Ctrl-T Toggles the Test Session on and off.

3.1 SESSIONS LIST

“M” Main Menu

“C” Comm Session

“V” File Viewer

“E” File Edit Session

“N” Network File Transfer

“D” Disk Special Functions

“I” Information (special)

“P” Display Comm Output Data (special)

“T” TTY Emulation Session

The Main Menu Session is always active. Many functions are handled by the Main Menu Session directly. Other sessions are activated automatically as needed to access their respective portions of the overall menu tree.

The Comm Session (ID letter “C”) controls and monitors file transfers between the CNC Station and the Machine Tool Control. Both the SEND and READ menus are handled by the Comm Session, but only one at a time. The activity monitor screens for SEND and READ operations activate and deactivate automatically for all file transfers, even those that are started remotely.

The Display Comm Output Data (ID letter “P”) starts automatically when the Comm Session starts sending data to the machine tool control. It displays data as it is sent to the control. The user can switch between the Comm Session and Display Data session by using the space key. The Display Data session will continue until the Comm Session is exited, even after all the data has been sent to the control.

- The View Session (ID letter “V”) runs the read-only file viewer.
- The Edit Session (ID letter “E”) runs the text file editor.

Note: You cannot view a file and edit a file at the same time.

The Network file Transfer (NFT; ID letter “N”) session controls and monitors file transfers between the CNC station and the network file server. The Network File Transfer Menu is handled here. The activity monitor screens for GET and PUT operations activate and deactivate automatically for all network file transfers, even those that are started remotely.

The Disk Special Functions (DSF; ID letter “D”) session handles the menu of the same name. These are disk functions that require some time to complete.

The Information Session (ID letter “I”) is different; it has no menu functions to perform. Its job is to display certain information and error messages. When one of these messages needs to be displayed, the Info session will ‘pop-up’ with the message. Once the message is acknowledged (see the screen for the proper key), the Info session goes away and the screen returns to whatever was interrupted. Note that processing continues in the interrupted session even while the message is displayed.

The TTY emulation session transforms the CNC Station into a Teletype (c) terminal. The user can choose to capture data received by and keyed into the terminal TTY emulation can also send files.

3.2 SESSION SWITCHING

When performing functions one at a time from the Main Menu tree, you are switched automatically from one session to another and back. However, it is possible to manually switch between active sessions. This allows you to start a function in one session, switch back to the Main Menu Session while that function is still running, and do something else at the same time.

The list of letters in the top right-hand corner of the screen shows the sessions that are active at that time. The Main Menu Session is always active; the others come and go, as they are needed. Each session is identified by a single letter, and the list is always in alphabetical order.

You can always tell what session you are in by finding the one letter in upper case (capitals).

There are two ways to manually change sessions.

1. Press the **Shift-space** key. This switches to the next session in the Session List. When it gets to the end, it starts over with the first.
2. Press the **Ctrl-space** key. This brings up the Session Menu. This shows the ID letters and names of all active sessions. The session that you were last in has an asterisk ("*") next to it, the others have dashes ("-").

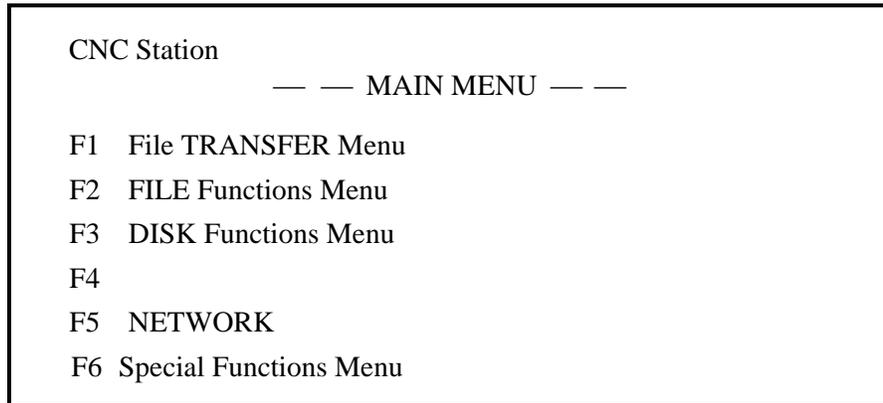
From the Session Menu the **RETURN** key returns you to the same session, the **space** key switches you to the next session (same as typing **shift-space**), and typing the letter of any active session switches you directly to that session (i.e., typing **M** switches you to the S Session).

Remember that each session runs independently of the others, so the screen displayed when you return to a session may not be the same as when you left. This is especially true for the Comm Session and NFT Session. These sessions have status monitoring screens that appear automatically whenever a file transfer is in progress.

Note: When you are in the Session Menu, all session ID letters will be lower case. This is because the Session Menu is not a session, it merely provides a way to switch between sessions.

4.0 OVERVIEW OF MENUS

4.1 MAIN MENU



All of the following functions are available from the Main and Quick menus.

4.1.1 Type space for QUICK MENU

4.1.2 **F1** Switches to the File Transfer Menu

4.1.3 **F2** Switches to the File Functions Menu

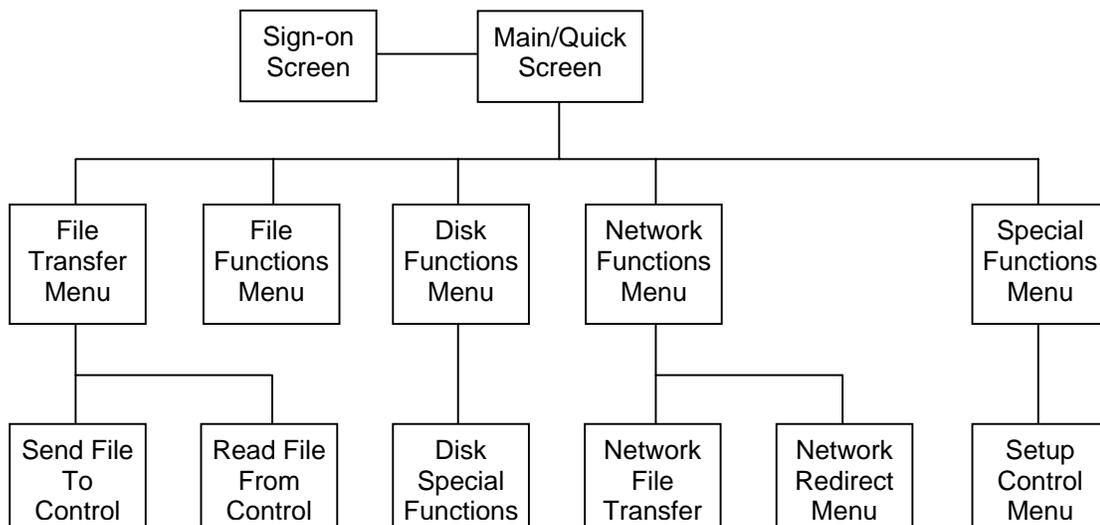
4.1.4 **F3** Switches to the Disk Functions Menu

4.1.5 **F5** Switches to the Network Functions Menu

4.1.6 **F6** Switches to the Special Functions Menu

4.2 MENU TREE

All functions are selected from on-screen menus. The Main Menu is the top level of a tree with several levels. To perform a function, move to the proper menu by pressing the proper keys (the choices are always displayed on-screen), then select the function by pressing its function key.



Note: Single letter paths from Quick Menu are not shown.

Note: Individual function screens are not shown, only main menus.

4.3 MOVING AROUND THE MENUS

Each menu has a list of functions than can be selected from that menu. You choose the item by pressing the key listed to the left of the description.

For example, one of the items on the Main Menu is “F3 DISK Functions Menu,” pressing the **F3** key will switch to the Disk Functions Menu.

To move back up the menu tree, press **ESC**.

Combinations of the keys are used on some menus. They are always shown in the same way, as follows:

- F3** Means to press the **F3** key by itself.
- SF3** Means to hold down either **SHIFT** key while pressing the **F3** key.
- CF3** Means to hold down the **CONTROL** key while pressing the **F3** key.

If the key is followed by a dash “-“ or equals sign “=”, do **NOT** type the dash or equals sign, just the function key or letter before it.

- D** Means to press the **D** key

A few screens have the function key choices listed along the bottom line (such as the Directory Viewer). In some cases a help screen can be called up by pressing the question mark“?” to explain what each key does (**Note**: the question mark is a SHIFTED character.)

When you see the word “arrows” on the bottom of the screen, this means that you can use the arrow keys to move the cursor or highlight around on the screen. The backspace key looks very similar to the left arrow key, but they are NOT the same.

4.4 INPUTTING DATA INTO MENUS

Some menu items allow you to change an operating parameter. These are always displayed with an equals “=” sign between the item name and the item’s current setting. This says that the item named to the left of the equals sign is set to the value displayed to the right of the equals sign. It also means that the function key listed to the left of the whole thing will let you change that value.

For example, one of the lines on the Special Functions Menu is: **F6** LCD Adjust = 10. This means that the current setting of the “LCD Adjust” parameter is 10. It also says that pressing the **F6** key will change it.

Different ways are used to change different kinds of items. Whit some items, pressing the function key will cycle it to the next one of a fixed sequence of valid values (such as in our example.) When it gets to the last value, it starts over at the beginning of the list. In other cases, you edit the item directly on-screen (such as the Switch Reg on the Setup: Parallel Channel (2) screen). And when the item is a filename (such as the “File” item on the Send File TO Control menu), it will call up the Directory Viewer, which lets you select one of the files on a diskette, or type in the name of a new file.

Refer to Section 11.0, “Menus and Screens References,” for details on what values can be assigned to each parameter, and how each one can be changed.

4.4.1 Editing Values On-Screen

Whenever you need to edit a value on-screen, the same editing keys are available. When editing, the cursor will appear on the first (left-most) character of the value. You can move the cursor left and right, type letters or numbers, and a few other things. When you are done, press the **RETURN** key to save the new value. If you make a mistake or change your mind press the **ESC** key to cancel the changes.

While editing a value, that value occupies a fixed amount of space on the screen. You can move the cursor within that area, but cannot move it elsewhere on the screen. This area is called the 'field'. A field is always limited to one or more characters on a single line.

The following keys can be used while editing a parameter on-screen:

- The left arrow key moves the cursor one character to the left, without changing anything.
- The right arrow key moves the cursor one character to the right, without changing anything.

Home Moves the cursor to the left end of the field.

End Moves the cursor to the first blank after the character in the field. If the last character is at the right-most edge of the field, the cursor will be on that character.

ESC Ends the edit, cancels any changes made and returns the item to its original value.

RETURN Ends the edit and saves the new value of the item (**Note:** this does NOT change the value saved in the EEROM).

Ctrl-J Moves the cursor one character to the left, without changing anything

Ctrl-K Moves the cursor one character to the right, without changing anything

Ctrl-H Moves the cursor to the left end of the field

Ctrl-L Moves the cursor to the first blank after the last character in the field. If the last character is at the right-most end of the field, the cursor will be on

Depending on what is being edited, different sets of keys can be typed in the field.

- Filenames and other text fields: Type any letter, digit, or punctuation
- For numeric fields: Only type digits 0 through 9
(such as Reader Speed)
- For binary fields" Type only the digits 0 and 1
(such as the Config. Reg.)

5.0 QUICK MENU

Session: Main

```
CNC Station                                     M
      — — QUICK MENU — —
S-Send TO Control                             V-View File
R-Read FROM Control                           E-Edit File
D-Show Disk Directory                         L-Logon
T-Enter Terminal Emulation
```

- 5.1 “S” Switches directly to the Send File TO Control Menu (in the Comm Session). If the Comm. Session is already active, we switch directly to it.
- 5.2 “R” Switches directly to the Read File FROM Control Menu (in the Comm Session). If the Comm Session is already active, we switch directly to it.
- 5.3 “D” Calls up the disk Directory Viewer. Although a file can be selected, nothing is done to it from this function.
- “T” Launches the TTY emulation package with the feature a CNC Station serves as a simple Teletype Terminal.
- 5.4 “V” Starts the text File Viewer. The Directory View is called up first, to allow a file to be selected. When a file is selected, the File View is started on it. If the “V” or “E” session is already active, we switch directly to it.

The File View opens a window on the file that is 38 characters wide and 6 lines high. This window can be moved up and down and left and right across the file.

```
VIEW FILE: FILENAME.TEX                               V
      =====TOP= OF=FILE=====
: G71
: N1G9Z 0.
: N2G17M99T10Z 0.
: N3M06T00Z 0.
: N44G00X 524.894Y-434.443Z 250.Z
arrows      PgUp   PgDn   Home   ESC   ?=HELP
```

Note: Lines longer than 38 characters do not wrap to the next line. Instead, a “>” character is put in the right margin to indicate that there is more text on that line past the edge of the screen. Use the left and right arrow keys to scroll through the window left and right (by about 20 characters each time). When you shift the window to the right, all lines will have a “<” in the left edge, to indicate that there is un-displayed text in that direction.

Note: Although only text files will display properly, the File Viewer does not verify that the file actually is text; it will try to display whatever is in the file.

- 5.5** **“E”** Starts the File Editor. The Directory Viewer is called up first, to allow a file to be selected. When a file is selected, the File Editor is started on it. If the “V” or “E” session is already active, we switch directly to it.
- “L”** Logon enters the security menu screen.
- Ctrl-RET** Returns to the Start-up Screen.

6.0 FILE TRANSFER MENU

Session: Main

Path from Main Menu: **F1**

File Transfer Menu	M
F1	Send File TO Control
F2	
F3	Read to File FROM Control
F4	
F5	
F6	

6.1 TO SEND A FILE TO THE MACHINE TOOL CONTROL

Session: Comm

Path from Main Menu: **F1 F1**
or **S**

This screen varies depending on which communications port is selected.

For serial (port 0):

Send File TO Control	Cm
SF1	START Sending
F2	File = <none>
F3	
F4	Serial Search = OFF
F5	Search String = <none>
F6	

For parallel (port 2):

Send File TO Control	Cm
SF1	START Sending
F2	File = <none>
F3	
F4	
F5	Search String = <none>
F6	

Note: The following keys work in both screens:

Shift-F1 Starts sending the specified file to the Machine Tool Control. If file is set to "<none>", nothing will happen.

F2 Calls up the Directory Viewer to select a file for the SEND.

F5 Allows the Search String to be edited. Up to 16 characters can be entered. Leading spaces count, but trailing spaces do not. Press **ESC** to exit mode without saving the changed string, or **RETURN** to save the new string.

ESC Returns to the menu that called up this screen, either the Main Menu or the File Transfer Menu.

The following key works only when a serial port is selected:

Shift-F4 Toggles the Serial Search option ON and OFF. When ON, pressing **Shift-F1** will cause output from the selected file to the machine tool control to begin at the point in the file that matches the contents of the Search String. When OFF, the entire file is sent. If the search string is "<none>", then the entire file will be sent regardless of the setting of the search mode.

Note: The SEND Monitor Screen provides search commands used with the parallel port.

6.1.1 File Search Functions

The file search functions depend on what type of communications port you are using to communicate with the machine tool control. For serial ports (0 and 1), the SEND File TO Control menu allows you to edit the search string, and enable or disable the search function. When enabled, only that part of the file starting with the matched string will be sent to the control when the SEND is started.

If you are using the parallel port, the SEND monitor screen has provisions for editing the search string, and requesting forward and reverse searches.

6.1.1.1 Serial Applications (Port 0)

- Press **F1**. This brings up the File Transfer Menu.
- Press **F1**. This brings up the SEND File TO Control menu.
- Press **F5**. This enters the search string edit mode.
- Type or edit the string you want to search for.
- Press **RETURN**. This saves the new search string.
- If serial search is OFF, press **shift-F4**. This turns it on.
- When you are ready to send the file to the control, press **shift-F1**. This causes the CNC Station to open the file, search through the file until it finds a match for the search string, then starts sending data to the control. The first characters sent will be the same as the search string.

6.1.1.2 Parallel Applications (Port 2)

- Press **F1**. This brings up the File Transfer Menu.
- Press **F1**. This brings up the SEND File TO Control menu.
- Press **F5**. This enters the search string edit mode.
- Type or edit the string you want to search for.
- Press **RETURN**. This saves the new search string.

- Press **Shift-F1**. This opens the file and brings up the SEND Monitor screen (we expect that the control is not accepting data yet).
- Press **Shift-“>”**. This starts a forward search. The file pointer will be moved forward until a match is found. Progress and completion messages will appear as warranted.
- At this point, you can search for the next occurrence of the string, or edit the string and search for something else, or you can search in reverse.
- When you are at the proper point in the file, tell the machine tool control to start accepting data (push a button on the control, or whatever makes it do that). The first thing sent will be the same as the last search string found.

6.1.2 SEND Monitor Screen

Session: Comm

This screen varies depending on which communications port is active.

For serial (port 0):

```

*** Send File TO Control ***                               Cm
File SOMEFILE.TEX

-->-

Press Ctrl-ESC to close

```

For parallel (port 2):

```

*** Send File TO Control ***                               Cm
File SOMEFILE.TEX

F5 Search String = <none>

“<”=REVsrch “>”=FWDsrch  Ctrl-ESC=CLOSE

```

This screen automatically appears in the Comm Session when a SEND operation is in progress. It shows the name of the file being sent to the control. The activity indicator consists of several dashes with an arrow that slowly moves to the right. When the transfer is completed, the screen returns to the Send File TO Control menu.

Ctrl-ESC Closes (aborts) the send operation.

For parallel, the following keys are also available:

- F5** Allows the Search String to be edited. Up to 16 characters can be entered. Leading spaces count, but trailing spaces do not. Press **ESC** to exit edit mode without saving the changed string, or **RETURN** to save the new string

Shift-“>” Issues a Forward Search command. The message “SEARCHING” will appear during the search.

Shift-“<” Issues a Reverse Search command. The message “SEARCHING” will appear during the search.

Note: Once a search is started, you cannot abort it or close the file until it is finished.

6.2 TO READ A FILE FROM THE MACHINE TOOL CONTROL

Session: Comm

Path from Main Menu: **F1 F3**
or **R**

Read File FROM Control	Cm
SF1 START Reading	
F2 File = <none>	
F3	
F4	
F5	
F6	

One of the items on this menu shows the name of the file to be read. If no filename has been entered, it shows <none>. If it already shows the name of the file you want to read, press **Shift-F1**.

Shift-F1 Starts reading a file from the Machine Tool Control using specified filename. If the filename is set to “<none>”, nothing will happen.

F1 Calls up the Filename/Mask Entry screen. Type in the name of the file you want to create, then press **Shift-F1**.

F2 Calls up the Directory Viewer to select a filename to read to. If an existing filename is selected, it will be overwritten when the read is started. To enter a new filename, press **F1** at the Directory Viewer to enter the Filename/Mask Entry screen. Press return when completed.

ESC Returns to the menu that called up this screen, either the Main Menu or the File Transfer Menu.

Initiate file output from the machine control.

Some protocols close the file at the end of a read automatically, but others do not. It is also possible that you may want to close the file before it finishes as a result of errors or some other problem. To close the file manually from the Read Monitor screen:

- Press the **Ctrl-ESC** key. The file will be closed and the READ File FROM Control menu reappears.
- If you were canceling the READ and do not want to keep the file, be sure to delete it.

6.2.1 READ Monitor Screen

Session: Comm

```

                                                                    Cm
*** Reading File FROM Control ***
File SOMEFILE.TEX
                                -->
                                Press Ctrl-ESC to close
```

This screen automatically appears in the Comm Session when a READ operation is in progress. It shows the name of the file being read from the control. The activity indicator consists of several dashes with an arrow that slowly moves to the left. When the transfer is completed, the screen returns to the Read File FROM Control menu.

Ctrl-ESC Closes the Read and saves any data not yet written to disk.

7.0 FILE FUNCTIONS MENU

Session: Main

Path from Main Menu: **F2**

Selecting a File

When a function requires a file to work on, it will call up the Directory Viewer. This shows an alphabetical list of all files stored on the selected disk drive. The top file is highlighted. To choose a file, move the highlight to the desired file, then press the **RETURN** key. You can also use a function key to allow you to type in the full name of the file. Refer to the section on the Directory Viewer in this manual for more details.

File Masks

If the listing of files in the Directory Viewer is too long, you can specify a file mask. The special characters “?” and “*” can be used to limit the list of files displayed. A “?” matches any single character, while the “*” matches any number of characters. The default masks of “*. *” matches everything.

Examples:

FOO.*	Matches only files with a filename of “FOO”, but with any extension.
FOO*.*	Matches only filenames starting with “FOO” and with any extension.
FOO*	Matches only filenames starting with “FOO” and with any extension.
FOO*.	Matches only filenames starting with “FOO” and with NO extension (note the period after the “*”).
FOO?.TEX	Matches only those filenames starting with “FOO”, with only 1 additional character, and the extension “TEX”.
??FOO*.T?	Matches only filenames with “FOO” as the 3 rd through 5 th letters, and a 2-character extension starting with “T”.

File Functions Menu	M
F1	View File
F2	
F3	Edit File
F4	Copy File
F5	Rename File
F6	Delete File

7.1 VIEW (FILE VIEWER)

Path from Main Menu: **F2 F1**
or **V**

F1 Starts the text File Viewer. The Directory Viewer is called up first, to allow a file to be selected. When a file is selected, the File Viewer is started on it. If the “V” or “E” session is already active, we switch directly to it.

- The Directory Viewer will be displayed in File View mode.

- Move the highlight on the directory display to the desired file (**PgUp** and **PgDn** move up and down a page at a time, the up and down arrow keys move up and down one file at a time).
- Press **RETURN** to select the desired file. This starts the File Viewer.
- Move around the file as desired. **PgUp** and **PgDn** moves up and down a page at a time. The up and down arrow keys scrolls up and down one line at a time, and the left and right arrow keys shifts the file left and right by about 20 characters each. See File Viewer in the reference section for more options.
- When you have seen enough, press **ESC** to exit the File Viewer.

```

VIEW FILE: FILENAME.TEX                                     mV
=====TOP= OF=FILE=====
: G71
: N1G9Z 0.
: N2G17M99T10Z 0.
: N3M06T00Z 0.
: N44G00X 524.894Y-434.443Z 250.ZZ
arrows  PgUp/PgDn  Home  ESC  ?=HELP

```

- Up arrow** Scrolls the window up one line (the file moves down in the screen)
- Down arrow** Scrolls the window down one line (the file moves up in the screen)
- PgUp** Scrolls the window up one page (6 lines)
- PgDn** Scrolls the window down one page (6 lines)
- Home** Moves the window to the top of the file
- Left arrow** Shifts the window to the left by 20 columns (another 20 each time). The maximum shift is 100 characters. Note that this is a shifted character.
- Right arrow** Shifts the window to the right by 20 columns, but not past column 0. Note that this is a shifted character.
- “?”** Brings up a help screen, which shows the functions available in the File Viewer.
- ESC** Exits the File Viewer.

Note: It is not possible to view a file at the same time the File Editor is active.

- F3** Starts the text File Editor. The Directory Viewer is called up first, to allow a file to be selected. When a file is selected, the File Editor is started on it. If the “V” or “E” session is already active, we switch directly to it.
- F4** Starts Copy File Command. The Directory Viewer is called up first, to allow the source file and drive to be selected. Then the file is copied to the other drive using the same filename. This command only copies from one drive to the other. Note that the copy is

performed by the Disk Special Functions session (D), so you cannot copy and do any DSF functions simultaneously.

F5 Starts the Rename File command. The Directory Viewer is called up first, to allow the file to rename to be selected. When the file to be renamed has been selected, the user will be prompted to enter a new file name. The rename will be performed by pressing the **Enter** key or pressing the **ESC** key to cancel.

F6 Deletes a file from the diskette. The Directory Viewer is called up first, to allow a file to be selected.

ESC Returns to Main Menu.

7.2 EDITING TEXT FILES

Path from Main Menu: **F2 F3**
or **E**

- Move the highlight on the directory display to the desired file (**PgUp** and **PgDn** move up and down a page at a time, the up and down arrow keys move up and down one file at a time).
- Press **RETURN** to select the desired file. This starts the File Editor.
- Edit the file as desired. Refer to the File Editor page in the *Menus and Screens Reference* section of this manual, and the separate File Editor manual for more details on editing files.
- When you are finished, press **ESC** at the "*" prompt.
- When the question "OK to lose changes [Y/N]?" appears, type **N**, then **RETURN**. This will save the changes to the file. The original file is renamed to have the extension ".BAK".
- When the "Edit session complete, enter ESC" message appears, press **ESC** to exit the File Editor and return to the File Functions Menu.
- The commands used by the editor are covered in a separate manual, which was included with your CNC Station. Please refer to that manual for more details on how to edit files.

7.3 COPYING FILES BETWEEN DISK DRIVES

Path from Main Menu: **F2, F4**

- This selects the Copy File function and calls up the Directory Viewer. It starts with the default comm drive.
- If you want to copy from the other drive, press **F1** to switch to the Filename/Mask Entry screen, then **F1** again to change drives, then press **ESC** to return to Directory Viewer.
- Move the highlight on the directory display to the desired file (**PgUp** and **PgDn** move up and down a page at a time, the up and down arrow keys move up and down one file at a time).
- Press **RETURN**. This selects the source file and begins the file copy. If the source file does not exist, an error message will appear. If the destination drive already has a file by the same name as the source file, an error will appear.

When the copy is finished, the message "Copy finished" will appear.

- Press **ESC** to return to the File Functions Men.

Note: The Copy File command only copies from one drive to the other, or the other way. It does not allow you to change the name of the file, or copy to another name on the same disk.

7.4 RENAME FILE

- This selects the Rename File function and calls up the Directory Viewer. It starts with the default comm drive.
- Select the file to be renamed using the up and down arrow keys and press **Enter**.
- Type in the new name for the file using the DOS naming convention which has a limit of 8 characters, followed by "." Then followed by 3 characters. For example: XXXXXXXX.XXX

7.5 DELETING FILES

Path from Main Menu: **F2, F6**

- This brings up the Directory Viewer in the Delete File mode.
- Move the highlight on the directory display to the desired file (**PgUp** and **PgDn** move up and down a page at a time, the up and down arrow keys move up and down one file at a time.).
- Press **RETURN** to select the desired file. This selects the file and brings up a verification screen
- If you really want to delete the file, press **F1**. If you changed your mind, or selected the wrong file, press **ESC** to cancel.

8.0 DISK FUNCTIONS MENU

Session: Main

Path from Main Menu: **F3**

Disk Functions Menu	M
F1 View Directory	
F2	
F3	
F4	
F5 Show Space On Diskette	
F6 Disk Special Functions	

F1 Calls up the Directory Viewer. Although a file can be selected, nothing is done with it from this function.

8.1 DIRECTORY VIEWER

Session: Can be used by several different sessions

Path from Main Menu: **F3 F1**
or **D**

The Directory Viewer provides a full-screen view of the list of filenames in a diskette directory.

Disk Directory	M
F1Dir – D0:*. *	
ANOTHER FIL	1,565 2/03/92 3:00PM
FILE01.TEX	375 12/04/91 8:40AM
FILE02.BIN*	5,606 1/01/01 12:00AM
FILE02.TEX	8,430 12/04/91 9:58PM
MOREFILE	89,086 4/19/89 1:00AM
arrows PgUp PgDn Home RETRUN ?=HELP	

Note: The date and time will usually be correct for files written on a PC and newer CNC Stations, but since Minifiles and older CNC Stations do not have an internal time-of-day clock, the time and date may not be accurate for some files.

The names are sorted alphabetically, and you can see five names at a time. Each line on the screen shows the name of the file, the size of the file in bytes, and the date and time the file was written. One name is highlighted (it has an asterisk "*" to the right of the name), and you can change which one that is.

The Directory Viewer also has a filemask parameter. Pressing **F1** calls up the Filename/Mask Entry screen. This screen allows you to change drives, enter a filemask, or enter the full filename. Enter a full filename is useful when creating a new file, since you can't select something that isn't there yet

The Directory Viewer is also used by numerous other functions to allow the user to select a file to process.

The title on the top line will show the name of the function that called up the directory, such as SEND. When called by itself, the title is as shown.

The last line shows some of the keys which perform functions in the Directory Viewer. This screen also has a HELP screen which provides longer explanations of those keys.

The five middle lines show up to five file entries from the disk directory. The filename, size, date, and time are shown. The files are shown in alphabetical order.

One file is always highlighted. The highlight consists of an asterisk "*" to the right of the filename.

F1 Calls up the Filename/Mask Entry screen. This allows you to change the file mask, or just type in the full filename. It also allows you to change which drive you are looking at.

Up arrow Moves the highlight to the next file. The list is paged down as needed.

Down arrow Moves the highlight to the previous file. The list is paged up as needed.

PgUp Scrolls the window up one page (5 lines) and moves the highlight up by the same amount

PgDn Scrolls the window down one page (5 lines) and moves the highlight down by the same amount

Home Moves the highlight and the window to the first file in the list

RETURN Performs a function on the selected file. The function that is performed depends on how the Directory Viewer was started. For example, if started from the "Delete File" menu pick, the file would be deleted.

ESC Exits the Directory Viewer without selecting a file or doing a function.

"?" Brings up a help screen. This screen shows what the function keys do.

```
HELP: Directory Viewer                                     M
    arrows = move to prev/next file
    PgUp/PgDn = show previous/next page
    Home = move to first file
    F = type name or change mask
    ESC = cancel
    RETURN = select marked file
```

8.1.1 Filename/Mask Entry Screen

Path from Directory Viewer: **F1**

SPECIFY FILE/MASK:	M
F1 Drive = D0:	
Enter file name or file mask	
**	
RETURN=Select ESC = Show Dir	

F1 Cycles the disk drive parameter through the values "D0:" and "D2:".

ESC Returns to the Directory Viewer with no changes to the filemask. It does allow changes to the drive selection.

RETURN If a filemask was entered, returns to the Directory Viewer, which re-reads the directory with the new filemask and/or drive selection. If a complete filename was entered, the function is performed on the file (same as pressing **RETURN** from the Directory Viewer screen when the filename already exists). If left blank, the default mask of "*.*)" is used.

Field Editing keys are active.

Other keys are entered into the field at the cursor position. If the result contains one or more question marks "?" or asterisks "*", it is a filemask, otherwise it is a complete filename.

8.2 SHOW SPACE DISK

Session: Main

Path from Main Menu: **F3 F5**

DISK SPACE	M
F1 Drive = D0:	
	bytes blocks
used	126,976 248
free	1,330,688 2599
total	1,4f57,664, 2847

F1 Cycles the Drive selection through the values "D0:" (floppy disk) and "D2:" (RAM disk).

ESC Returns to the Main Menu.

Note: There may be a delay of 2 or 3 seconds before the results appear. This occurs while the disk is being read, and will happen when first called up, and each time the F1 key is pressed to change drives.

If you change diskettes, you must exit this screen, and re-enter it to read the new diskette.

F5 Calls up the Disk Space screen. It shows the total storage space on the disk, the amount of space used, and amount of space available. Both the number of blocks (512 bytes each), and number of bytes are reported (do not add them together, they are different ways of measuring the same thing).

ESC Returns to the Main Menu.

8.3 DISK SPECIAL FUNCTIONS

Session: Disk Special Functions

Path from Main Menu: **F3 F6**

Disk Special Functions	Dm
F1 Verify Diskette (read only)	
F2	
F3	
SF4 INIT Diskette (erase dir)	
SF5 FORMAT Diskette (erase everything)	
SF6 Test Diskette (erases everything)	

These functions operate on the default comm drive only.

8.3.1 Verify Disk

Session: Disk Special Functions (DSF)

Path from Main Menu: **F3 F6 F1 RETURN**

Verifying Disk	Dm
Current Block Number: 104	
Read Errors: 0	
Seek Errors: 0	
ESC=STOP	

This test performs a non-destructive test on a diskette (the contents of the disk are NOT damaged). It reads each block on the diskette to verify that there are no errors. All read and seek errors are counted. When it gets done, it stops.

ESC Stops the verify (if not already done). When the message "Verify complete, press ESC" appears, press **ESC** again to return to the Disk Special Functions menu.

The Current Block Number counts from zero to the maximum block number of the disk. The error counters start at zero, and show all errors that occurred since the verify was started.

8.3.2 Initialize Diskette

Session: Disk Special Functions (DSF)

Path from Main Menu: **F3, F6, SF4**

SF4 Initializes a diskette by erasing the directory. The diskette must already be formatted.

The screen prompts for volume name. You can also use **F1** to change drives. Enter the volume name and press **RETURN**. Then the screen shows the message "Initializing Disk ..." while the format is performed. When finished, it returns to the Disk Special Functions Menu.

8.3.3 Format a New Diskette

Session: Disk Special Functions (DSF)

Path from Main Menu: **F3, F6, SF5**

SF5 Formats a diskette. This erases ALL data from the diskette. Most new diskettes must be formatted before they can be used. When finished, the disk has no files on it, and all space is free.

WARNING: This will permanently erase ALL data from the diskette.

- If the wrong drive is displayed, press F1 repeatedly until the desired drive is shown.
- If desired, type in the volume name. It can be from 1 to 11 letters or digits, no spaces. If you omit it, the default volume name of "CNC-STATION" is used.
- Put a diskette in the drive. (This does not apply to RAM disks.)
- Press **RETURN**. This starts the format operation. The format may require a minute or two to complete.

When the format is completed, the Disk Special Functions Menu returns.

The screen prompts for new volume name. You can also use F1 to change drives. Enter the volume name and press **RETURN**. Then the screen shows the message "Initializing Disk ..." while the format is performed. When finished, it returns to the Disk Special Functions Menu.

8.3.4 Test Disk

Session: Disk Special Functions (DSF)

Path from Main Menu: **F3, F6, SF6**

Note: This menu cannot be accessed while a Copy File command is running.

```
Testing Disk                               Dm
Current Block Number: 1532
Read Errors: 0
Seek Errors: 0
Writing disk, test value = 04  ESC=STOP
```

WARNING: This will permanently erase ALL data from the diskette.

TEST performs a destructive test on a diskette. It writes a test value to every byte of every block on the disk, then reads each block to verify that they contain the proper data. All read and seek errors are counted. When it gets done, it starts over with a different test value. This test runs indefinitely until stopped.

ESC Stops the test. When the message "Disk Test complete, Press ESC" appears, press **ESC** again to return to the Disk Special Functions menu. The disk must be reformatted before it can be used for data storage again.

The last line shows when the test is "Writing" or "Reading" the disk. The current test value is also shown. The Current Block Number counts from zero to the maximum block number of the disk, and starts over when switching between reading writing phases. The error counters start at zero, and show all errors that occurred since the test was started. The test value will vary.

Note: The diskette must be formatted BEFORE running this test. If already formatted, ALL data on the disk will be erased. .

Note: The disk must be formatted after running this test before it can be used for data storage again.

9.0 NETWORK FUNCTIONS MENU

Session: Main

Path from Main Menu: **F5**

Network Functions Menu	M
F1 Network File Transfer Menu	
F2 Network Redirection Menu	
F3	
F4 Server Directory Menu	
F5 Print Server File Menu	
F6	

- F1** Switches to the Network File Transfer Menu.
- F2** Switches to the Network Redirection Menu.
- F4** On RS-232 network only, switches to Server Directory Menu.
- F5** On RS-232 network only, switches to Print Server File Menu.
- ESC** Returns to the Main Menu

Note: If a network file transfer is in progress (GET or PUT), selecting either of these functions will simply switch you to the Network Monitor screen.

9.1 NETWORK FILE TRANSFER MENU

Session: Network File Transfer (NFT')

Path from Main Menu: **F5 F1**

Network Transfer Menu	mN
F1 GET File FROM Server	
F2 PUT File TO Server	
F3	
F4	
F5	
F6	

9.1.1 Get a File From the Network File Server to the CNC Station (NFT Download)

Start at the Main Menu or Quick Menu.

- F1** Gets a file from the server (copies it to the local disk). The Filename Entry screen is called up first to allow a file to be entered. When a filename has been entered, the Network File Transfer is started. The NFT GET Monitor screen will appear for the duration of the transfer.

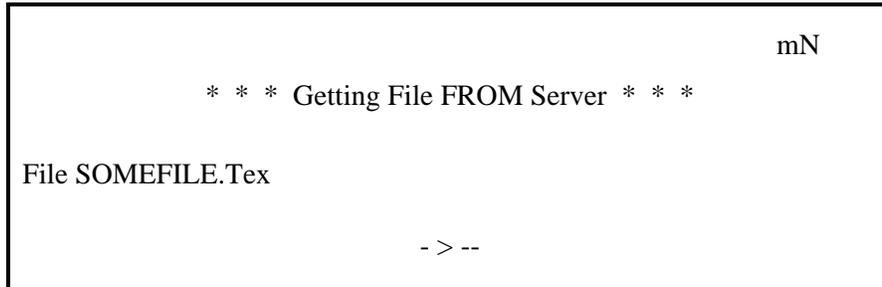
- Type in the name of the file you want to get, then press **RETURN**.

The screen will show the message "Waiting for Server to Poll" for a short time, then "Request Sent to Server". Within a few seconds, the GET Monitor screen should appear. This screen will until the transfer is completed.

When the transfer is done the screen will return to the Network File Transfer Menu.

9.1.1.1. NFT GET Monitor Screen

Session: Network File Transfer



This screen automatically appears in the NFT Session when a GET operation is in progress. It shows the name of the file being read from the file server. The activity indicator consists of several dashes with an arrow that slowly moves to the right. When the transfer is completed, this screen disappears.

9.1.2 Put a File From the CNC Station Onto the Network File Server (NFT Upload)

F2 Gets a file from the server (copies it to the local disk). The Directory Viewer is called up first, to allow a file to be selected. When a file is selected, the Network File Transfer is started. The NFT PUT Monitor screen will appear for the duration of the transfer.

- Move the highlight on the directory display to the desired file (**PgUp** and **PgDn** move up and down a page at a time, the up and down arrow keys move up and down one file at a time).
- Press **RETURN**. This selects the file and starts the network transfer sequence.

The screen will show the message "Waiting for Server to Poll" for a short time, then "Request Sent to Server". Within a few seconds, the PUT Monitor screen should appear. This screen will remain until the transfer is completed.

When the transfer is finished, the screen will return to the Network File Transfer Menu.

ESC Returns to the Network Functions Menu.

9.1.2.1 NFT PUT Monitor Screen

Session: Network File Transfer



This screen automatically appears in the NFT Session when a PUT operation is in progress. It shows the name of the file being sent to the file server. The activity indicator consists of several dashes with an arrow that slowly moves to the left. When the transfer is completed, this screen disappears.

9.2 NETWORK REDIRECTION MENU

Session: Network File Transfer (NFT)

Path from Main Menu: **F5 F2**

Network File Transfer commands allow an operator to GET or PUT files between the CNC Station and the file server. Redirection refers to the ability to have the file server transfer a file to or from a device other than the one you are issuing the command from: you can SEND or SAVE a file to or from the other device. For instance, an operator at CNC Station A can issue a command to send a file from the server to CNC Station B, or a Minifile, or a directly connected machine tool control.

Network Redirection Menu	mN
F1 SEND File TO Device (from server)	
F2 SAVE File TO Server (form device)	
F3 SEND Tile TO Control	
F4 GET File FROM control	
F5 CLOSE File on Device	
F6 DELETE File on Device	

9.2.1 Send a File From the Server to a Remote Device

SEND File TO Device/Server	mN
Device Name:	
File Name:	
Enter name of remote Device	

This screen lets you specify the file and remote device to use for a redirected download (GET). It starts with the cursor in the Device Name field.

First, type in the name of the device you want to send to; this name must match a device defined on the server. Press **RETURN**; the cursor moves to the File Name field. Type in the name of the file to send; this must match the name of a file in the server download directory for the device named in the Device Name field. Press **RETURN**; the request will be sent to the server, which will respond with a message to indicate whether the request was accepted or not

F1 Calls up the SEND File TO Device entry screen, which allows a redirected GET command to be issued.

- Enter the name of the remote device. This must match a device defined on the server.

- Enter the name of the file to send to that device. This file must exist in the server download directory of the selected device.

RETURN The first time (cursor is in the Device Name field): completes entry of the Device Name and moves the cursor to the File Name field. The second time (cursor is in the File Name field): completes entry of the File Name and issues the redirection request to the server.

ESC Returns to the Network Redirection Menu.

Note: The Device Name and File Name are remembered (as long as the CNC Station remains turned on) so if the device and/or file name you want is already there, just press **RETURN** to accept that entry.

Note: You can have several redirected file transfers running at the same time (as many as one for each remote device), but you cannot use this command while a GET or PUT is in progress on this device (including redirected transfers requested from another device).

As soon as the request has been accepted by the server, the screen will return to the Network Redirection Menu. You can issue another redirected request to another device immediately, if desired.

9.2.2 Save a File From a Remote Device to the Server

F2 Calls up the SAVE File TO Server entry screen, which allows a redirected PUT command to be issued.

- Enter the name of the remote device. This must match a device defined on the server. .
- Press **RETURN**. The cursor will move to the filename field.
- Enter the name of the file to get from the device. This file must exist on the default network diskette of the specified device.
- Press **RETURN**. This will send the request to the server. Progress, status, and error messages will appear as warranted.

As soon as the request has been accepted by the server, the screen will return to the Network Redirection Menu. You can issue another redirected request to another device immediately, if desired.

F3 Calls up the "SEND File TO Control" entry screen which will send a file directly to a machine control attached to the network.

F4 Calls up the "GET File FROM Control" entry screen which alerts the file server that a file will be uploaded from a machine control.

F5 Calls up the "CLOSE File ON Control" entry screen which tells a control to close a file.

F6 Calls up the "DELETE File ON Control" entry screen. The user may name a control and file. The specified control then deletes the requested file.

ESC Returns to the Network Functions Menu.

9.3 SERVER DIRECTORY MENU

- 9.3.1 F1** View Device Download Directory
Enter the Device name and the mask for the files to be displayed.

- 9.3.2 F2 View Device Upload Directory
Enter the Device name and the mask for the files to be displayed.

9.4 PRINT SERVER FILE MENU

- 9.4.1 F1 Print from Download Directory
Enter the Device name and the File name to be printed.
- 9.4.2 F2 Print from Upload Directory
Enter the Device name and the File name to be printed.

10.0 SPECIAL FUNCTIONS MENU

Session: Main

Path from Main Menu: **F6**

Special Functions	M
F1 Setup Control Menu	
F2 Set Date and Time	
F3	
F4 Terminal Setup	
SF4 Terminal Emulation	
F6 LCD Adjust = 10	

F1 Switches to the Setup Control Menu.

F2 Switches to the Set Date and Time screen.

F4 Switches to the Set Date and Time screen.

Shift-F4 Switches into Terminal Emulation.

F6 Cycles the LCD Adjust setting through the values 0 to 15. Note that the screen may be unreadable for some settings (so press if repeatedly until you can read it).

ESC Returns to the Main Menu.

10.1 SETUP CONTROL MENU

Session: Main

Path from Main Menu: **F6 F1**

Setup Control Menu	M
SF1 Save setup to permanent storage	
F2 Save setup to disk	
F3 Load setup from disk	
SF4 Load setup from permanent storage	
SF5	
F6 View/Change SETUP	

10.1.1 Setup Control Menu

SF1 Stores the current system configuration settings in the internal on-volatile memory chip (EEROM). This allows the settings to be remembered when the power is off, and restored automatically when turned on.

10.1.2 Save Setup to Disk

This function allows you to create files containing the setup parameters of the CNC Station. These files can then be loaded on other CNC Stations that require the same

setup, or you can create several files for a single CNC Station for different uses. This is especially useful when a single CNC Station is connected to a switch box or is frequently moved from machine to machine.

- Press **F2**. This brings up a Filename Entry screen.
- Enter the name to save the setup with. The extension is always "MFP".
- Press **RETURN**. The message "Saving setup to disk" will appear for a short time, followed by the message "Setup saved to disk". If an error occurs, the message "Unable to save setup" will appear. This can be caused by running out of space on the disk, if the disk is write protected, or if no disk is installed.
- Press any key to return to the Setup Control Menu.

10.1.3 Load Setup From Disk

Loads the system configuration from a disk file (as created with F2, above). This overwrites the current system configuration, but does NOT change the configuration stored in EEROM

- Press **F3**. This brings up the Directory Viewer, which will show only those files with the extension of "MFP".
- Move the highlight on the directory display to the desired file (**F5** and **F6** move up and down a page at a time, **LF** and **space** move up and down one file at a time).
- Press **RETURN**. This loads the CNC Station parameters from the selected file.

10.1.4 Load Setup From Permanent Storage

SF4 Loads the system configuration from the internal non-volatile memory chip (EEROM). This is performed automatically upon power up, but this command can be used to return the configuration to its power-up state if it has been changed temporarily or unintentionally.

10.1.5 View Change Setup

10.1.5.1 Setup: Default Drives

The following codes are used to refer to the disk drives in the CNC Station:

"D0:" refers to the internal 3 ½" floppy disk drive

"D2:" refers to the internal RAM disk drive (optional)

Note: The "D1:" (second floppy) drive is not available on the CNC Station; these codes are used to maintain compatibility with other Greco Systems products.

10.1.5.2 Setup: CNC Station Options

Session: Main

Path from Main Menu: **F6 F1 F6 PgDn**

Setup: CNC Station Options

M

SF1 Default Top Menu = MAIN

SF2

SF3

SF4 Terminal Port=<none>

F5 Network Channel = Serial Ch 1

SF6 Active Comm Channel = Serial Ch 0

PgUp=PrevPg PgDn=NextPg

Shift-F1 Cycles the Default Top Menu between the options "MAIN" and "QUICK". This setting determines which of the Main and Quick menus are displayed when returning to the top menu level. Note that in this manual, all references to the Main Menu refer to both the Main and Quick menus.

Shift-F4 Cycles between "<none>", "Serial Ch 0", and "Serial Ch 1" defines channel used for terminal emulation.

Shift-F5 Cycles the Network Channel between "(none) Serial Ch 0", and Serial Ch 1". Only valid on RS-232 network stations.

Note: The user will be prevented from selecting the same channel for both Network Channel and Active Comm Channel.

Shift-F6 Cycles the Active Communication Channel (to the Machine Tool Control) through "(none)", "Serial Ch 0", "Serial Ch 1", and "Parallel (2)".

PgUp Switches back to previous setup screen: Setup: Default Drives.

PgDn Switches to next setup screen: Setup: Serial Channel 0.

ESC Returns to the Setup Control Menu.

10.1.5.3 Setup: Serial Channel 0 and 1

Session: Main

Path from Main Menu: **ch0: F6 F1 F6 PgDn PgDn**

ch1: F6 F1 F6 PgDn PgDn PgDn

Setup: Serial Channel 0

M

SF1 Protocol = 0) NO PROTOCOL

SF2 Baud Rate = 9600

SF3 Character Format = 8N1

SF4

F5

SF6 Auto Enables = off

PgUp=PrevPg PgDn=NextPg

Setup: Serial Channel 1	M
SF1 Protocol = 0) NO PROTOCOL	
SF2 Baud Rate = 9600	
SF3 Character Format = 8N1	
SF4	
F5	
SF6 Auto Enables = off	
PgUp=PrevPg PgDn=NextPg	

Shift-F1 Cycles the Protocol parameter through the values. Samples of the protocols are: "0) NO PROTOCOL", "1) X-ON/X-OFF", "2) EDITOR PORT", "3) DNC LOADER", "4) EASY LINK", "5) 491 LVL 2 SLV", "6) HEIDENHAIN", "7) PUNCH/READER", "8) READER/SYNC", "9) RS491 LEVEL 1", "10) FANUC", "11) HEIDENHAIN BLK", "12) FAPT", "13) HECC-80/3XX", "14) 491 LVL2 MSTR", "15) HITACHI SEIKI", "16) MAZAK CONVER", "17) P/R MASTER", "18) X-ON/X-OFF II", "19) TLM", "20) SHARNOA REM", "21) FANUC CASSET", "22) MAZAK CASSET", "23) KELCO", "24) STARLINK", "25) BYSTRONIC", "26) LUCAS LM-4", "27) STR-LNK 2 HW", "28) YASNAC FC1 ", "29) PNCH/RDR II", and "30) Allen-Bradley". It is not possible to select the protocol directly by number.

Note: The numbers listed match those used by Greco Systems' MiniFile.

Note: Changing the protocol also changes several other parameters to their default values for the new protocol. If you need to use different parameters than the defaults, be sure to set the protocol first, then adjust the others as needed.

Shift-F2 Cycles the Baud Rate parameter through the values 50, 75, 110, 135, 150, 300, 600, 750, 1000, 1200, 1500, 1800, 2000, 2400, 3000, 3600, 4800, 7200, 9600, 19200.

Shift-F3 Switches to the Setup: Character Format Ch.0 setup screen. Note that the short form of the character format is used here: first digit is data bits, letter is parity, and last digit is stop bits. **Shift-F6** toggles the Auto Enables option "ON" and "Off". This enables the hardware handshake lines on the serial port.

PgUp From the Setup: Serial Channel 0 screen, switches back to previous setup screen: CNC Station Options. From the Setup: Serial Channel 1 screen, switches back to the Setup Serial Channel 0 screen.

PgDn From the Setup: Serial Channel 0 screen, switches to the Setup: Serial Channel 1 screen. From the Setup: Serial Channel 1 screen, switches to the Setup: Parallel Channel (2) screen.

ESC Returns to the Setup Control Menu.

Refer to the application note for the proper values for these parameters.

10.1.5.4 Setup: Parallel Channel (2)

Session: Main

Path from Main Menu: **F6 F1 F6 PgDn PgDn PgDn PgDn**

```

Setup: Parallel Channel (2)                                     M
SF1 Leader/Trailer = nulls
SF2 Switch Reg = 0000000000000000
SF3 Config. Reg = 0000000000000000
SF4 Reader Speed = 0
F5
SF6

PgUp=PrevPg PgDn=NextPg

```

Shift-F1 Toggles the Leader/Trailer character option between "nulls" and "spaces".

Shift-F2 Allows the Switch Register (Switch Reg) value to be edited. Refer to the Field Editor reference section for details on editing. Only the digits 0 and 1 are accepted in this field. While editing, press **RETURN** to save the new value, or **ESC** to cancel editing without saving any changes.

Shift-F3 Allows the Configuration Register (Config Reg) value to be edited. Refer to the Field Editor reference section for details on editing. Only the digits 0 and 1 are accepted in this field. While editing, press **RETURN** to save the new value, or **ESC** to cancel editing without saving any changes.

Shift-F4 Allows the Reader Speed value to be edited. Refer to the Field Editor reference section for details on editing. Only the digits 0 through 9 are accepted in this field (you must enter all necessary leading zeros). While editing, press **RETURN** to save the new value, or **ESC** to cancel editing without saving any changes. Valid values include 0, and the range from 15 to 1000 characters per second.

PgUp Switches back to previous setup screen: Setup: Serial Channel 1.

PgDn Switches to next setup screen: Setup: Protocol Options-A.

ESC Returns to the Setup Control Menu.

Refer to the application note for the proper values for these parameters.

10.1.5.5 Setup: Protocol Options-A

Session: Main

Path from Main Menu: **F6 F1 F6 PgDn PgDn PgDn PgDn PgDn**

```

Setup: Protocol Options-A                                     M
SF1 EIA translation = off
SF2 End-Of-Line Chars(s) = CR only
SF3 Looping = off
SF4 Mazak Terminators = 1
F5 Sent Nulls in Text = no
SF6 Data Mode = text

PgUp=PrevPg PgDn=NextPg

```

- Shift-F1** Toggles the EIA translation option "ON" and "off".
- Shift-F2** Cycles through the options for End-Of-Line characters used between the CNC Station and the Machine Tool Control. The sequence is: "CR only", "LF only", "CR and LF",
- Shift-F3** Toggles the Parallel looping option "ON" and "Off".
- Shift-F4** Toggles the Mazak Terminator setting between 1 and 2. This option applies only when protocol "16) MAZAK CONVER" is selected. It has no effect on protocol "22) MAZAK CASSET", or any other protocols.
- Shift-F5** Toggles the Send Null in Text option "ON" and "Off".
- Shift-F6** Toggles the Data Mode option between "text" and "binary".
- PgUp** Switches back to previous setup screen: Setup: Parallel Channel (2).
- PgDn** Switches to next setup screen: Setup: Protocol Options-B.
- ESC** Returns to the Setup Control Menu.

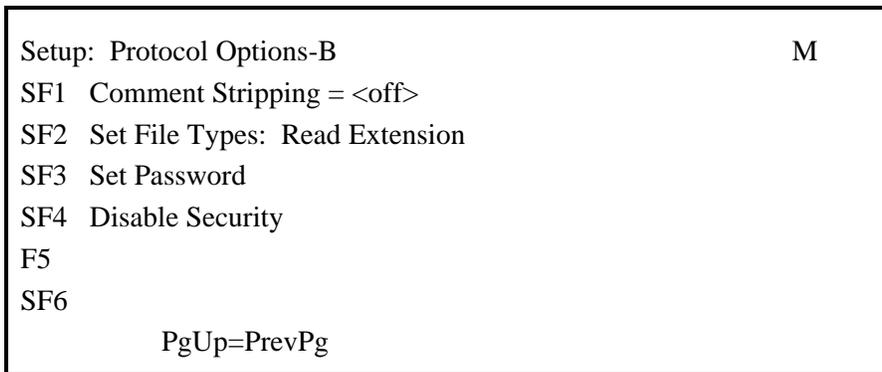
Refer to the application note for the proper values for these parameters.

Note: The "-A" on the screen title simply indicates that this is the first page of Protocol Options.

10.1.5.6 Setup: Protocol Options-B

Session: Main

Path from Main Menu: **F6 F1 F6 PgDn PgDn PgDn PgDn PgDn PgDn**



Shift-F1 Allows the Comment Stripping value to be edited. Refer to the Field Editor reference section for details on editing. Two ASCII characters can be entered: the first is the character that indicates the start of a comment; the second is the character that indicates the end of a comment. While editing, press **RETURN** to save the new value, or **ESC** to cancel editing without saving any changes. If either character is blank or invalid, the display will show "<off>".

The setting of this parameter affects how files are sent to the machine tool control during a PUT (download). If <off>, the files are sent unchanged. If any other characters are displayed, then any text between these characters in the file is stripped (not sent). Typically, if a comment starts with an open parenthesis "(" and ends with a close parenthesis ")", then this could be set to "()" to strip those comments from the data sent to the control. Any other

printable characters can be used to delimit comments. Having both characters the same letter is possible, but not recommended.

This option cycles between "Read Extension", "All are Text", and "All are Binary." New files become DOS file type binary or text by this rule. "Read Extension" looks for filenames ending in ".BIN", ".EXE", or ".COM" and labels these files binary.

PgUp Switches back to previous setup screen: Setup: Protocol Options-A.

ESC Returns to the Setup Control Menu.

Refer to the application note for the proper values for these parameters.

Note: The "-B" on the screen title simply indicates that this is the second page of Protocol Options.

10.1.5.7 Setup: Character Format, Channel 0 and 1

Session: Main

Path from Main Menu: ch0: **F6 F1 F6 F6 F6 SF3**
ch1: **F6 F1 F6 F6 F6 F6 SF3**

Setup: Character Format, Ch x	M
SF1 Data Bits = 7	
SF2 Parity = none	
SF3 Stop Bits = 2	
SF4	
F5	
SF6	
Press ESC to continue	

This screen is used for both serial channels 0 and 1. The 'x' in the title is replaced by the number of the channel being updated (0 or 1).

Shift-F1 Cycles the Data Bits parameter through the values 7 and 8.

Shift-F2 Cycles the Parity parameter through the values "none", "odd", "even", and "mark".

Shift-F3 Toggles the Stop Bits parameter between 1 and 2.

ESC If channel 0, returns to the Setup: Serial Channel 0 screen. If channel 1, returns to 1 screen

Refer to the application note for the proper values for these parameters.

10.1.5.8 CNC Station H/W Configuration

Session: Main

Path from Main Menu: **Ctrl-RET C**

CNC Station H/W Configuration	M
Floppy Disk Size: 1.44MB	
RAM Disk Size: 128K	
Hard Disk Size: none	
Network Type: Async Greco-Net	
Control Card: 101235	
RAM Disk Type: 101215	
Software Rev/Date: F/06-09-92	

The previous screen shows the configuration of the CNC Station hardware and software. The status of these items can be changed only by installing, removing, or updating hardware or software. The actual values shown will vary depending on the configuration of your particular CNC Station

10.2 DATE AND TIME

Session: Main

Path from Main Menu: **F6 F2**

DATE and TIME	M
FEB 19, 2002 12:59am	
-- --- --- -- ---	
F1 F2 F3 F4 F5	
ESC=cancel RETURN=save SFx=down	

This screen shows what the date that the CNC Station is set to, and allows it to be changed.

F1 Changes to the next month

Shift-F1 Changes to the previous month

F2 Changes to the next day of the month (does NOT check for invalid days, such as Feb 30th).

Shift F-2 Changes to the previous day of the month

F3 Changes to the next year. Year can range from 1900 to 2099

Shift F-3 Changes to the previous year.

F4 Changes to the next hour.

Shift-F4 Changes to the previous hour.

F5 Changes to the next minute.

Shift-F5 Changes to the previous minute.

ESC Exits without saving the date and time. Any changes made are ignored.

RETURN Exits and saves the new date and time.

10.2.1 Set the Date and Time

The CNC Station uses its Date and Time settings when it creates new files. This appears in the directory listings.

Start at the Main Menu or Quick Menu.

- Press **F6**. This brings up the Special Functions Menu.
- Press **F2**. This brings up the Date screen.
- Adjust the date as needed. For the date, **F1** advances the month, **F2** advances the day, and **F3** advances the year. For the time, **F4** advances the hour and **F5** advances the minutes. If you hold down a shift key, then those function keys change their items to the previous value.
- Press **RETURN**. This saves the new date and returns to the Special Functions Menu.
- The date and time are kept in a battery-backed clock circuit inside the CNC Station. Once set, the date and time should remain accurate, but should probably be checked periodically since it might run a little fast or slow and gradually become inaccurate. The battery will eventually run down, but it should last for many years.

10.3 TERMINAL SETUP MENU

Session: Main

Path from Main Menu: **F6 F4**

Terminal Setup	M
F1 Capture a file	
F2 Send a file	
F3	
F4 Setup file capture	
F5 Setup send file	

- F1** This key enters the standard select file menus to specify a capture file. Usually capturing begins with a new file. To do this, press F1 twice, enter the name of your file, press return, and enter two escape keys. Naming a capture file locks out the F1 key until the file has been closed.
- F2** This key also enters the standard select file menus. Choose an existing file to send.
- F4** This key enters the "Setup File Capture" menu.
- F5** This key enters the "Setup Send File" menu.

Setup File Capture

M

F1
F2 Start file capture with 10=41h'A"
F3 FULL or HALF Duplex=FULL
F4 Replace CR with -CR
F5 Replace LF with=LF
F6 On FF Clear Screen-Y
F7 Process TABs-Y

F2 The key entered after an F2 defines the start capture character. If the F1 key defined a file, then repeating the capture character 10 times without any intervening character starts a file capture. Characters put on the screen are captured to a file. These characters may be sent over the communications line or come from keyboard input if the duplex option is set to "HALF". A second string of ten start capture characters ends the file capture and closes the capture file. The ten start capture characters typed on the CNC Station keyboard do not appear on the screen or the capture file. Full duplex terminals depend on the computer they are connecting to for echoing of characters. Typed characters display on the screen and get captured in "HALF" duplex. Should you attach your station to a computer and see every keyed character twice on the screen, change from "HALF" to "FULL" duplex.

F4 and F5 A received CR, carriage return, or LF, line feed, character may be replaced in the file by a "CR", "LF", ".CR and LF", "<none>". To receive a file unchanged, set the F4 option to "CR" and the F5 option to "LF". Some computer data has just a single "CR" or a single "LF" at the end of every line. Viewing this data writes only on the bottom line of the CNC Station screen. Replacing the "CR" or "LF" with "CR" and "LF" cures this.

F6 A simple "Y" or "N" changes whether the terminal will clear the screen when an ASCII form feed character arrives.

F7 Another "Y" or "N" changes the response to TAB characters. Yes on this question causes the terminal's cursor to jump forward to the nearest 8-character column when the terminal receives a TAB. A no to the "Process TABs" question transfers tabs to the display, leaving a halftone rectangular mark. To receive a file unchanged, answer no to this option.

Setup Send File

M

F1
F2 Send end character? Y
F3 End character=
F4
F5 Synchronize with <none>
F6 End of line character=00h NULL

F2 and F3 A "Y" answer to the F2 option sends an extra character after the file data. The F3 option specifies the extra character.

F5 and F6) F5 gives three choices for sending protocol:

<none> Simply sends the file.

ECHO Waits for the receiver to return the character. This usually works with

LINE the character defined by the F6 option. Usually F6 holds a CR character. This allows the receiver to answer with a CR after each line of data.

The Shift F4 command on the "Setup: CNC Station Options" menu selects the serial data port number 0 or 1. This options menu appears from the top menu with the F6, F1, F6, and PAGE DN keys. Additional PAGE DN keys find menus that setup serial port characteristics like baud rate, parity, and number of stop and data bits. Be sure that the characteristics of the selected serial port match the device you wish to communicate with. A shifted F4 from this menu or the "Special Functions Menu" jumps into the terminal mode. The letter "T" on the QUICKMENU screen also leads to the terminal program. If a file and start character were setup, then data capture begins with the receipt of 10 bytes of the start character. Another shift F4 exits the terminal emulation mode and temporarily stops an outstanding file capture.

Error Messages

"TTY Character Queues Overflowed"

"TTY Disk Buffer Overflowed"

These messages indicate that data reaches the CNC Station faster than the TTY emulation system can process it.

Any of several steps can be taken to avoid these failures:

1. Enable the XOFF.XON protocol on the sending device. The TTY emulation package may attempt to use this to prevent overflow conditions.
2. Reduce the number of concurrent processes running on the CNC Station.
3. Turn off options like the F6 clear the screen function and the F7 tabbing function. These functions take time for the CNC Station to process.
4. Insert a new diskette into the CNC Station and reformat it. Capture your data on this new diskette. Old worn diskettes may take more time to process.
5. Reduce the baud rate on both the CNC Station and the host computer.

10.4 ADJUST THE SCREEN (LCD) DISPLAY

Start the Main Menu or Quick Menu

- Press **F6** to get to the Special Functions Menu.
- Press **F6** repeatedly to adjust the LCD (the screen). Stop when you like what you see.
- Press **F1** to go to the Setup Control Menu.
- Press **Shift F1** to save the new settings to the internal permanent storage.

If nothing (or very little) appears on the Screen When you turn it on, try this:

- Turn on the CNC Station
- Press **Ctrl-DEL**, then press **F6** several times. Watch the screen as you repeatedly, and slowly, press **F6**. If you don't see anything on the screen after 20 presses or so, turn the power off, wait several seconds, and turn it back on again. Then start pressing **F6** again. If it still doesn't work after doing this several times, contact the Customer Service Department at Greco Systems for assistance.

11.0 FUNCTION KEY COMMANDS

The function key commands are entered at the command prompt (*). These commands will prompt the user for the required information.

These commands can be canceled at any time by entering a Ctrl-C. The command prompt will be displayed and the next command may be entered.

F1 – Search

Purpose: Search from the current line to end of file for a text string. It works the same as the “SN” command in section 3.5.

Prompt: “Enter Search String”

Enter: Search String

Result: The line containing the string will be displayed if found, or a message saying the string was not found will be displayed.

Pointer: Will point to the line the string is on if found, otherwise will point to the last line of the file.

F2 – Replace

Purpose: Replace a text string on the current line with a new string. It works the same as the “change” command in section 3.5.

Prompt: “Replace Initiated”

Enter: String of text to be replaced

Prompt: “Enter replace string.”

Enter: String of text to replace above text.

NOTE: The replace string may be blank (just enter at the prompt).

Result: The line containing the string will be displayed if found, or a message saying the string was not found will be displayed.

Pointer: Will remain at the current location.

F3 – Search and Replace Once

Purpose: Search from the current line to the end of file for a text string and, if found, replace it with a new text string.

Prompt: “Search & Replace Once” “Enter search string”.

Enter: String of text to be replaced

Prompt: “Enter replace string:”

Enter: String of text to replace above text.

NOTE: The replace string may be blank (just enter at the prompt).

Result: The line containing the modified string will be displayed if found, or a message saying the string was not found will be displayed.

Pointer: Will point to the line the search string is on if found, otherwise will point to the last line of the file.

F4 – Search and Replace Global

- Purpose:** Search to the end of file or all occurrences of a text string and, if found, replace all with a new text string.
- Prompt:** “Search & Replace Global” “Enter search string:”
- Enter:** String of text to be replaced
- Prompt:** “Enter replace string”
- Enter:** String of text to replace above text.
- NOTE:** The replace string may be blank (just enter at the prompt).
- Result:** All lines containing the modified string will be displayed if found, or a message saying the string was not found will be displayed.
- Pointer:** Will point to the last line of the file.

F8 – Re-sequence

- Purpose:** Re-sequence the line numbers of a part program starting from the current line using Re-sequence parameters provided by the user.
- Prompt:** “Re-sequence initiated” “Enter number of digits (0-5:”
- Enter:** A number between 0 and 5 inclusive
- NOTE:** Entering a zero (0) will cause the re-sequencer not to pad the numbers with preceding zeros, but use only the required number of digits for the number, up to four digits before wrapping around to the starting digit. Otherwise the number of digits in the sequence number will be a fixed value, padding with zeros where necessary. Default value is zero
- Prompt:** “Enter start number (default 1):”
- Enter:** The first number to use in the re-sequence
- Prompt:** “Enter increment value (default 1):”
- Enter:** The value to add to the last sequence number
- Result:** The editor will start at the current location in the edit file and re-sequence all the line numbers to the end of the file using the information entered for the parameters. Each line will be displayed before and after the line number modification. The edit prompt will return to the screen when completed. The current line pointer will point to the last line of the file.

Print Line

- Purpose:** To print “n” number of lines on the terminal.
- Command:** **P** (n)
- Argument:** The “n” number of lines are displayed on the terminal, beginning with the current line. The current line pointer is advanced “n” number of lines.
- If only the **P** is entered, the current line pointer is advanced one line, and that line is displayed on the terminal.

Quit Editor

Purpose: To quit the Editor without saving the file changes.

Command: **Q** on **ESC**

Argument: The Editor displays the message:

OK to lose changes? (Y/N)

A letter Y response returns control to the Monitor and all current text changes are lost. Any other response returns control to the Editor.

Search to End of Buffer

Purpose: To search to the end of the buffer for a character string.

Command: **S** (string)

Argument: This command searches forward to the end of the current buffer for the entered character string. These strings can contain up to 80 characters.

Search to End of File

Purpose: To search forward to the end of a file for a character string.

Command: **SN** (string) or **F1** (see Section 3.6.1)

Argument: This command searches forward to the end of the file for the entered character string. These strings can contain up to 80 characters.

Top of Buffer

Purpose: To move to the top of the buffer.

Command: **T** or **Home** key

Argument: This command moves the current line pointer to the top of the buffer. The first line in the buffer is displayed on the terminal.

Text Mode Command Set

The Text Mode is indicated by the cursor being at the left margin of the terminal's display without a prompt symbol (*).

Line Edit

Purpose: To enter a line or to exit the Text Mode.

Command: **Enter** key

Argument: The Enter key enters the text on the current line into the file.

If no text has been entered on the current line, the Enter key causes the Editor to exit the Text Mode and enter the Command Mode.

Delete Character

Purpose: To delete the character immediately before the cursor

Command: **Del** (Delete) key

Argument: The Del key deletes the character immediately before the cursor and moves the cursor back one space.

Delete Line

Purpose: To cancel a current command line.

Command: **Ctrl** (Control) key and the letter U.

Argument: The current command line is canceled by holding down the Ctrl key and pressing the letter U.

Cancel Print

Purpose: To cancel the **P** (n) command.

Command: **Ctrl** (Control) key and the letter C.

Argument: The active Print command is canceled by holding down the Ctrl key and pressing the letter C before the requested number of lines are displayed on the screen.

Tab

Purpose: To advance the cursor.

Command: **Tab** key

Argument: Pressing the Tab key displays a block character to the screen. This command inserts the ASCII tab character (decimal 9 without spaces) into the file.

12.0 EDITOR COMMANDS

12.1 OVERVIEW

The Minifile Editor is a line editor of files that contain any information visible when entered via the keyboard. The Editor can:

- Create and save new files
- Upload existing files, saving both the updated and the original versions.
- Create, delete, edit, insert and display lines of text with up to 131 characters.
- Search and Replace Global
- Re-sequence part program line numbers
- Search for, delete, or replace characters in one or more lines of text.

12.2 MAXIMUM FILE SIZES

When editing an existing file on a single Minifile-configured diskette, the maximum file size is limited to half the available capacity of the diskette. This limitation is required because the Editor does not erase the original file. Therefore, upon exiting the Editor, the diskette has two files.

12.3 RESERVED FILE NAMES

When editing a new file (CREATE mode), the Editor creates a temporary file named **TEMP**. This file is renamed with the file name provided on the command line.

When editing an existing file, the Editor automatically provides the file name on the command line with the extension **.BAK**. Because of these Editor functions, the following rules must be followed.

- Never use **TEMP** as the file name
- Never name a file with the extension **.BAK**.
- Never attempt to edit a file containing the extension **.BAK**.

12.4 OPERATIONAL MODES

The Editor has two modes of operation: **Command** and **Text**. In the Command mode, the Editor is idle and waits for a command. Any entered characters are interpreted as commands to the Editor when the **Enter** key is pressed. In the Text mode, entered characters are stored in the text buffer each time the **Enter** key is pressed. If no characters are entered and the **Enter** key is pressed, the Editor returns to the Command mode.

12.5 COMMAND MODE COMMAND SET

The Command Mode is indicated by an asterisk (*) preceding the cursor at the left margin of the terminal's display.

Advance Pointer

Purpose: To advance the current line pointer to the next line.

Command: **Enter** key or down arrow key (↓)

Argument: None

Add Text

Purpose: To add text to the end of the current line.

Command: A

Argument: This command causes the Editor to enter the Text Mode.

If the Editor displays the message. "**Buffer full. OK to write one block? (Y/N),**" the text buffer is full and the Editor has attempted to insert text into the first 512-byte data block. To continue inserting text in the file, enter the letter Y.

If the Editor then displays the message: "**To insert more code at this location, exit and re-enter file,**" the text buffer is full and the Editor has attempted to insert text into the first 512-byte data block. Exit and re-enter the file to save the data in the buffer onto the diskette to make room for more modifications.

Move to End of Buffer

Purpose: To move the Editor pointer to the end of the current text buffer.

Command: B or END key

Argument: The last line of the buffer becomes the current line and is displayed on the terminal.

Move to End of File

Purpose: To move the Editor pointer to the end of the file.

Command: BN or F10 key

Argument: The last line of the file becomes the current line and is displayed on the terminal.

Change Text

Purpose: To replace old text with new text.

Command: C/OLDTEXT/NEWTEXT or F2 (see Section 3.6.2)

Argument: The first occurrence of old text is replaced by the new text.

Delete Line

Purpose: To delete "n" number of lines starting with the current line.

Command: D(n)

Argument: The "n" is optional. If "n" is not specified, only the current line is deleted.

Exit Editor

Purpose: To exit the editing session.

Command: E

Argument: The currently edited file is saved onto the diskette. If the file exists, the file is renamed with the extension **.BAK**. IF there is another file with the same file name and extension, that file is deleted.

Insert Text

Purpose: To insert text before the current line.

Command: I

Argument: This command causes the Editor to enter the Text Mode.

If the Editor displays the message: “**Buffer full. OK to write one block? (Y/N)**,” the text buffer is full. To continue to insert text in the file, enter the letter Y.

If the Editor then displays the message: “**To insert more code at this location, exit and re-enter file,**” the text buffer is full and the Editor has attempted to insert text into the first 512-byte data block. Exit and re-enter the file to save the data in the buffer onto the diskette. This will make room for more modifications.

Move Pointer

Purpose: To move the current line pointer “n” number of lines.

Command: **M(-)(n)**

Argument: The current line pointer is moved forward the specified number of lines. If the minus sign (-) is included, the current line pointer is moved back the specified number of lines. The current line is then displayed.

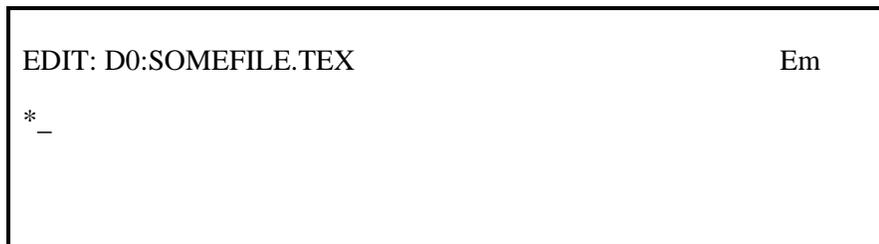
Down arrow	-	move forward 1 line
Up arrow	-	move back 1 line
PgDn	-	move forward 6 lines
PgUp	-	move back 6 lines

If only the letter **M** is entered, the next line becomes the current line.

12.6 FILE EDITOR

Session: Edit

Path from Main Menu: **F2 F3**
or **E**



The editor supplied is a command line editor. Commands can be entered at the “*” prompt. The commands available in the editor are described in the File Editor manual, supplied separately. However, the following special shortcut keys and commands are available in the CNC Station version.

- F1** Search Forward. Prompts for string to search for. Searches from current position to end of file, if necessary.
- F2** Replace. Prompts for string to find, and replacement string. Applies only to the current line.
- F3** Search & Replace Once. Prompts for string to find, and replacement string. Searches from current position to end of file, if necessary, but only changes first occurrence.
- F4** Search & Replace. Prompts for string to find, and replacement string. Searches from current position to end of file. Replaces all occurrences of matching string.

- F8** Re-sequence Line Numbers. Replaces existing line numbers in part program files with new line numbers, in correct numerical sequence. Runs from the current position to the end of file.
- F10** Move current position to End of File.
- Home** Move current position to top of buffer (NOT top of file).
- END** Move current position to end of buffer (NOT end of file).
- PgUp** Moves to previous page.
- PgDn** Moves to next page.
- Up-arrow** Move to previous line.
- Down-arrow** Move to next line.
- ESC** Exits the editor (from command prompt only).

While entering text in the command line or function prompts, the Field Edit function keys are active. To cancel any of the search or replace commands during the string prompt phase, enter **Ctrl-C**.

The drive and name of the file being edited is shown on the top line.

Note: It is not possible to edit a file at the same time the File Viewer is active.

12.7 EDITOR COMMAND SET

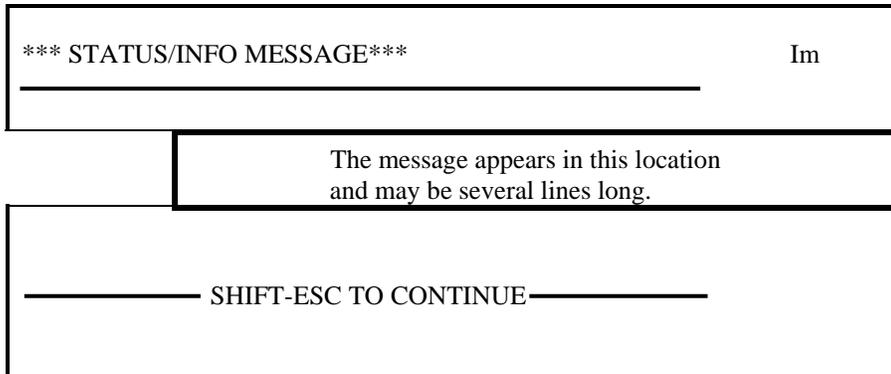
This appendix lists the available commands in alphabetical order under the categories Monitor Commands and Editor Commands. In addition, the Editor Commands are subdivided under the categories Command Mode and Text Mode.

EDITOR COMMANDS		
Command Mode:		
Entry	Argument	Purpose
A	None	To add text after the current line to the end of a line
B	None	To move to the end of the buffer.
BN	None	To move to the end of a file.
C	/Oldtext/Newtext	To replace text with new text.
D	Number	To delete a set number of lines (can be used without an argument)
E	None	To exit the Editor.
I	None	To insert text before the current line.
M	Number	To move a set number of lines; a minus number can be used (can be used without an argument).
P	Number	To display a set number of lines (can be used without an argument).
Q	None	To quit the Editor without saving files.
S	String	To search for a string to the end of the buffer.
SN	String	To search for a string to the end of the file.
T	None	To move to the top of the buffer.
Enter Key	None	To advance the pointer to the next line.
Text Mode:		
Ctrl Key	C	To cancel a PRINT command
Ctrl Key	U	To cancel the current command line.
Del Key	None	To delete the character to the left
Enter Key	None	To enter a line or to exit the Text mode
Tab Key	None	Insert tab character in file.

13.0 INFORMATION MESSAGES

Session: Info

Path: None, you cannot call up this screen directly.



This screen “pops-up” when certain informational messages are posted by various parts of the system. One source of messages is the file server operator. Note that several messages from different sources may be queued up, and only the highest priority message will be displayed until it is cleared.

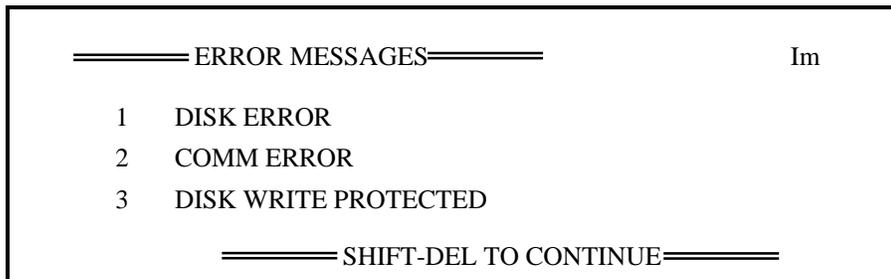
Shift-ESC Clears the displayed message. If other messages re queued, the next one will appear, otherwise the screen that was interrupted will reappear.

Important: If you switch to another session while this screen is active (without clearing the message), the screen will NOT pop-up when another message arrives. It also will not pop-up if an error occurs (the screen will show the errors when you switch back, but it won’t pop-up). You should always clear these messages as soon as possible.

13.1 ERROR MESSAGE “POPUP” SCREEN

Session: Info

Path: None, you cannot call up this screen directly.



This screen “pops-up” when certain system errors are detected. If additional errors occur while this screen is active, they will be added to those already displayed. Up to four messages can be on-screen at any one time. As more errors occur, the oldest messages are lost.

This screen has priority over the Information Message screen, which is also handled by the Info Session.

The numbers displayed by each message are simply sequence numbers, they are not error codes. They can be used to determine how many errors have occurred, since the old messages scroll off the top of the screen. The numbers reset each time the screen is cleared.

Shift-DEL Clears all errors and resets the error counter. If an information message is queued, it will appear next; otherwise the screen that was interrupted will reappear.

Important: If you switch to another session while this screen is active (without clearing the errors), any additional errors will be logged to the screen, but it will NOT pop-up again for each one. This allows you to handle any problems that are causing the errors, but also makes it possible to miss new and unexpected errors since it won't pop-up in this situation. You should always return to this session and clear the errors after taking care of the problem.

13.3 MONITOR AND EDITOR MESSAGES

The displayed Monitor and Editor messages are preceded by three asterisks (***) to differentiate them from the text.

13.3.1 Monitor Messages

Diskette directory full

An attempt to open a file for writing failed because the directory could not accept another file entry. The maximum range of files that can be written to a diskette is 1111 to 271, depending upon the Minifile mode.

*****Diskette I/O fault**

An attempted diskette input/output operation failed, even with retries. Format anew diskette, create a file, and perform the same function. If the problem continues, seek technical assistance.

*****Diskette time-out**

An attempt to access the diskette failed because the diskette either was not inserted into the drive or inserted improperly into the drive.

*****Diskette write protected**

An attempt to write to the diskette failed because the diskette was write protected.

*****End of medium – operation not completed**

An attempt was made to write beyond the capacity of the diskette and the current operation was aborted.

*****File already exists**

An attempt to open a new file for writing failed because a file with the same name already exists on the diskette.

*****File not text type**

An attempt to type or edit a text file was not successful because the file did not contain legible ASCII characters. Although a file name may have a .TXT extension, it still can be a binary file and cannot be edited.

*****Insufficient number of arguments in command file**

The requested command required more arguments than were supplied by the user.

*****Invalid command**

The command entered at the Monitor's prompt was not a Monitor command.

*****Invalid input**

An argument supplied for a given operation was illegal, or contained illegal characters.

13.3.2 Editor Messages

*****Buffer full. OK to write on block? (Y/N)**

If the text buffer becomes full while adding text to the file, this message requests the buffer be written to the diskette. If the letter Y is entered, a block of text is written onto the diskette and text insertion is allowed to continue. A letter N response returns the user to the Editor's prompt. The current line is the last line entered in the buffer.

*****Buffer now empty**

When creating a new file, or after deleting all data from an old file, entering any command except INSERT, or QUIT displays this message.

*****End of File**

The last line of the file was displayed, or an attempt was made to move past the end of the file.

*****File not found. Creation mode assumed**

The file name used with the Editor command did not exist on the diskette. It is assumed that a new file is being created. The only valid commands at this point are INSERT or QUIT

*****File not text type**

An attempt was made to edit a non-text file. The Editor is terminated and the user is returned to the Monitor.

*****Invalid command character entered**

An invalid command character was entered.

*****Invalid number in command string**

A non-numeric character was entered where a number was expected, or the entered number was larger than 65,535.

*****OK to lose changes? (Y/N)**

When the QUIT command is entered, this message verifies that the user wants to quit the editing session without saving the changes. Any answer except a Y returns the user to the Editor and saves the changes.

*****Target string not found**

The character string for the CHANGE or SEARCH command was not found.

*****To insert more code at this location, exit and re-enter**

The buffer became full while text was being added to the first 712-byte data block. The only way to add more text to the desired location is to exit the Editor so the buffer can be written to the diskette, then re-enter the Editor.

*****Top of buffer**

This message, and the first line of the text buffer, are displayed when an attempt is made to move past the top of the next buffer.

14.0 MENUS AND SCREENS REFERENCE

<p>Major Menus</p> <ul style="list-style-type: none"> • Main/Quick Menu • File Transfer Menu • File Functions Menu • Disk Functions Menu • Disk Special Functions Menu • Network Functions Menu • Special Functions Menu • Directory Viewer • Filename/mask Entry Screen 	<p>File Transfer Menus</p> <ul style="list-style-type: none"> • Read File FROM Control • Verify Disk • Test Disk <p>File View/Edit</p> <ul style="list-style-type: none"> • File Viewer • File Editor
<p>Info/Status Screens</p> <ul style="list-style-type: none"> • Start-Up Screen • CNC Station H/W Configuration • Disk Space Display • Send Monitor • Send File TO control • Network File Transfer Menu • Read Monitor • NFT Get Monitor • Network Redirection Menu • Comm Data Output Display • NFT Put Monitor <p>“Pop-Up” Screens</p> <ul style="list-style-type: none"> • Informational Message Screen • Error Message Screen • Session Menu 	<p>Redirection Request Screens</p> <ul style="list-style-type: none"> • Send File TO Device • Save File TO Server <p>Setup Screens</p> <ul style="list-style-type: none"> • Setup Control Menu • Setup: Default Drives • Setup: CNC Station Options • Setup: Serial Channel 0/1 • Setup: Parallel Channel (2) • Setup: Protocol Options-A • Setup: Protocol Options-B • Setup: Character Format, Ch 0/1 • Date and Time • Terminal Setup • Setup File Capture • Setup Send File

15.0 MINIFILE “#” COMMAND TRANSLATIONS

This table shows how CNC Station functions correspond to the Minifile ‘pound’ sign commands. Those listed as “not applicable” are commands that do not apply to the CNC Station. Those listed as “not supported in this release: will be supported in a future release.

Minifile Command	CNC Station Menu	Menu Item
1# define file 2# select file by number 3# close file 4# free blocks 5# show disk directory 6# show volume name 7# select file by name 8# forward search 9# reverse search	Read File FROM Control (not applicable) Send Monitor/Read Monitor Disk Functions Menu Directory Viewer (not supported in this release) Send File TO Control Sending File TO Control Sending File TO Control	START Reading Close Show Space on Disk START Sending FwdSrch (parallel only) RevSrch (parallel only)
20# copy file by number 21# copy file by name 22# save parms to disk 23# load parms from disk	(not applicable) File Functions Menu Setup Control Menu Setup Control Menu	Copy File Save setup to disk Load setup from disk
30# network enable 31# editor enable 32# network drive default 33# editor drive default 34# parameter drive default 39# set time	(not applicable) (not applicable) Setup: Default Drives Setup: Default Drives Setup: Default Drives Special Functions Menu	Network Access Drive Edit/View Drive Save/Restore Parameter Drive Set Time
40# display parms 41# read parms from EEROM 42# save parms to EEROM 43# ch 0 baud 44# ch 1baud 45# ch 0 parity 46# ch 1 parity 47# ch 0 protocol 48# ch 1 protocol 49# select active channel	(see the Setup screens) Setup Control Menu Setup Control Menu Setup: Serial Channel 0 Setup: Serial Channel 1 Setup: Char Format, Ch 0 Setup: Char Format, Ch 1 Setup: Serial Channel 0 Setup: Serial Channel 1 Setup: CNC Station Options	Save setup to permanent storage Load setup from permanent storage Baud Rate Baud Rate Parity Parity Protocol Protocol Active Comm Channel
50# set date 51# text/binary mode 52# LF out put 53# EIA 54# comm drive select 55# LF to CR conversion 56# parallel looping 57# ch 0 auto enables 58# ch 1 auto enables 59# LCD viewing angle	Special Functions Menu Setup: Protocol Options-A Setup: Protocol Option ¹ -A Setup: Protocol Options-A Setup: Default Drives Setup: Protocol Option ¹ -A Setup: Protocol Option-A Setup: Serial Channel 0 Setup: Serial Channel 1 Special Functions Menu	Set Date Data Mode End-Of-Line Char(s) ¹ EIA Send/Read (Comm) Drive End-Of-Line Char(s) ¹ Looping Auto Enables Auto Enables LCD Adjust
61# ch 0 stop bits 62# ch 1 stop bits 65# ch 0 data bits 66# ch 1 data bits 67# nulls in text 68# single Mazak terminator 69# serial search	Setup: Char Format, Ch 0 Setup: Char Format, Ch 1 Setup: Char Format, Ch 0 Setup: Char Format, Ch 1 Setup: Protocol Options-A Setup: Protocol Options-A SEND File TO Control	Stop Bits Stop Bits Data Bits Data Bits Send Nulls in Text Mazak Terminators ² Search Enable (serial only)

Minifile Command	CNC Station Menu	Menu Item
70# numeric input	(not applicable)	
71# alpha input	(not applicable)	
72# parallel leader/trailer	Setup: Protocol Options-A	Leader/Trailer
73# RESET	(not supported)	
74# line pre-display	(not supported in this release)	
75# display file	Send File to Control	(Automatic)
76# comment lead character	Setup: Protocol Options-B	Omit comment lead character
77# comment trail character	Setup: Protocol Options-B	Omit comment trail character
<hr/>		
80# set switch reg	Setup: Parallel Channel (2)	Switch Reg
82# reader speed	Setup: Parallel Channel (2)	Reader Speed
84# configuration reg	Setup: Parallel Channel (2)	Config Reg
85# parts.job download	(not applicable)	
86# parts.job upload	(not applicable)	
87# server download	Network File Transfer	GET File FROM Server
88# server upload	Network File Transfer	PUT File TO Server
89# parts.job redirection	(not applicable)	
<hr/>		
91# format disk	Disk Special Functions	FORMAT Diskette
92# init directory	Disk Special Functions	INIT Diskette
93# test disk	Disk Special Functions	Test Diskette
96# verify disk	Disk Special Functions	Verify Disk
98# delete file by number	(not applicable)	
99# delete file by name	File Functions Menu	Delete File

¹The 'LF output' and 'CR to LF conversion' options are combined in the End-Of-Line Chars parameter. The following table shows how they compare.

<u>End-Of-Line Char(s)</u>	<u>52# LF output</u>	<u>55# CR to LF conversion</u>
CR only	disabled	disabled
LF only	disabled	enabled
CR and LF	enabled	disabled
(not supported)	enabled	enabled

²The following table shows how the CNC Station Mazak Terminators parameter compares to the Minifile parameter.

<u>Mazak Terminators</u>	<u>68# Single Mazak Terminator</u>
1	enabled
2	disabled

16.0 CNC STATION SECURITY

16.1 SECURITY LOCKOUT

Security features are included with CNC stations. To unlock them, enter an "L" from the quick menu. This will display the following menu:

Logon Menu	M
F1 LOGON – give password	
F2 LOGOFF	

An F1 key followed by the correct 4 characters and an enter key will unlock the editor and configuration screens. When the station sees the incorrect 4 characters an "INCORRECT PASSWORD" message warns of the error. Then the station will freeze for 2 seconds. After the wait, one may try again or quit by typing and ESC key

The F2 key restores the lock to its condition before any logon.

On an unlocked system, typing the sequence "F6 F1 F6 PgDn PgDn PgDn PgDn PgDn" gets to the last setup screen. This screen looks like:

Setup: Protocol Option – B	M
SF1 Comment Stripping =	
SF2 Set File Types: Read Extension	
SF3 Set Password	
SF4 Disable Security	
SF5	
SF6	
PgUp=PrevPg	

A shifted F3 followed by 4 characters and an enter key defines the 4 characters at the new password. The new password immediately goes into effect. This password maybe saved on the "Setup Control Menu". Saving the setup to permanent storage keeps the 4 characters forever, even after the power fails.

A shift-F4 removes any password protection, leaving no barriers to editing either files or system setups. Defining a new password cancels this.

Note that to reach the menu to define new passwords the system must be unlocked. If you forget the password on your system, please call Greco Systems for assistance.

Greco Systems will ship you CNC Station with security disabled.

17.0 TROUBLESHOOTING

17.1 IT BEEPS WHEN I TURN IT ON, BUT THE DISPLAY IS BLANK, OR TOO FAINT TO READ.

This may be caused by an improper LCD viewing angle value. To adjust the viewing angle:

- Turn the power off and on again to make sure you are starting at the Start-Up screen.
- Press **Shift-DEL**.
- Repeatedly press the **F6** key (give it about a half second between presses.)

This automatically takes you to the LCD viewing angle adjustment function, and starts adjusting. If no improvement is seen after pressing the key 20 times, cycle power and try it again. If it still doesn't work, call Greco Systems Customer Service.

Once the viewing angle is set properly, be sure to save the new value with the Save Setup to Permanent Storage function on the Setup Control Menu.

18.0 QUESTIONS AND ANSWERS

Q. What are those letters in the upper-right corner of the screen?

- A. That is the session list. It is possible to ignore these letters, and perform every function from the menu tree; you are automatically switched between sessions as you move up and down the tree. That approach is fine so long as you only do one thing at a time. Advanced users can perform several functions at the same time by switching sessions manually. Once a function has been started in a session, he can switch back to the main menu to do other things at the same time.

Q. Why do I sometimes get a “Directory in use by another session” message?

- A. Due to memory limitations, only one session can display a directory at a time. If you change sessions while a directory is displayed (this includes the Filename/Mask Entry screen), and then try to display a directory from another session, you get this message. Remember that many functions request directory displays automatically to let you select the file to process.

To clear the conflict, simply switch to the other session, exit the Directory Viewer, and switch back to where you were. Then retry the command.

Q. Why don't new files appear in the Directory Viewer?

- A. The Directory Viewer takes a snapshot of the disk directory contents each time it is started. If a file is created (or deleted) by another session, that change is recorded in the directory on disk, but if the Directory Viewer is already running, it won't show the change. To get the latest directory contents, press the **ESC** key to exit the Directory Viewer. Then select the command again to restart it. This will cause the diskette directory to be read again.

Q. Why doesn't the new disk appear in the Directory Viewer when I change disks?

- A. Same reason as above. Just exist the viewer and restart it after changing disks.

Q. Why does the Session List change sometimes when I haven't done anything?

- A. The Comm Session (“C”) and Network File Transfer session (“N”) activate automatically when they detect file transfers in progress. Some machine tool protocols automatically start and stop file transfers as commanded by the control. Network file transfers can be requested by the server console and by other network nodes (redirection).

Also, most error messages and some informational messages are display by the Information Session (“I”). Some of these messages appear briefly and go away automatically. Some errors can occur at any time, such as comm. Errors caused by noise on the line. The Info session goes away when you acknowledge the message.

Q. I'm getting so many error messages that I can't get the Info Session to go away long enough to do anything about the problem. What can I do?

- A. Using the session switching capabilities, rather than try to clear the Info Session, switch to the offending session (**Ctrl-space** or **shift-space**). This leaves the Info Session active, so it won't interrupt again. After clearing the problem from the other session, return to the Info session and clear the error message. The screen should return to the originally interrupted session.

Q. Sometimes I am not in the Session Menu, but no letters in the Session List are capitalized. What is going on?

A. This can happen in the Comm Session and NFT Session. If a file transfer is started from a remote source, rather than the CNC Station menu, these sessions will activate themselves to show the monitor screen. But they don't switch the screen in this case since that would be disruptive to whatever the user might be doing. Only the Session List changes to indicate that something is happening. Likewise, when the file transfer is done, they deactivate themselves, and do not switch screens back. Normally, this all happens transparently, but if the user switches sessions to see the monitor screen, and is still looking at it when the file transfer finishes, the session deactivates itself and the screen is not changed. This doesn't hurt anything, but you must switch back to an active session before you can do anything else.

Q. What do the messages "TTY Character Queues overflowed" and "TTY Disk Buffer overflowed" mean? How do I resolve these problems?

A. These messages indicate that data reaches the CNC Station faster than the TTY emulation system can process it. Any of several steps can be taken to avoid these failures:

1. Enable the XOFF/XON protocol on the sending device. The TTY emulation package may attempt to use this to prevent overflow conditions.
2. Reduce the number of concurrent processes running on the CNC Station.
3. Turn off options like the F6 clear the screen function and the F7 tabbing function. These functions take time for the CNC Station to process.
4. Reduce the baud rate on both the CNC Station and the host computer.