










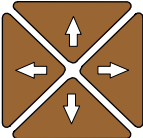




6000M CNC Control Program Management



FUNCTION	CNC KEYBOARD	COMPUTER KEYBOARD
X Axis Command		X Key
Y Axis Command		Y Key
Z Axis Command		Z Key
Preparity G Code		G Key
Machine Function Code		M Key
Spindle Function Code		S Key
Tool Command		T Key
ENTER		ENTER Key
SHIFT		SHIFT Key
Cycle HOLD Key		Alt + H Key
Cycle START Key		Alt + S Key
Cursor UP, DOWN, LEFT and RIGHT		ARROW Keys
CLEAR Key		Alt + C Key
FUNCTION Keys F1 - F10		F1 - F10 Keys

Definitions of Function keys are given on screen

INTRODUCTION

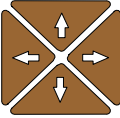
The Program Directory provides access to all the program management and disk utilities. These functions include Creating, Selecting, Deleting, Undeleting and Copying programs. The Program Directory also provides access to the Floppy Drive utilities.

Accessing PROGRAM DIRECTORY page.

(1) From the MANUAL mode press: **Program** The Program files are listed in alphabetical order.

To access a PROGRAM file from the Program page.

There are 2 methods to access a particular Program File:

(1) Using the  keys move the High Light to the desired program and Press: **Edit**

or

(2) Press the first letter of the desired program name, this will move the High Light to the first program

name with that letter, then use the  keys to move the High Light to the desired program

and Press: **Edit**

To CREATE a new Program.

NOTE: There are 2 methods of creating a program file, both are shown below.

Method No.1 Creating a new program file. From the PROGRAM page:



(1) Press: **Create** At the prompt **NEW PROGRAM: _** type in the new program name

NEW PROGRAM: EXAMPLE_ and Press: 

NOTE: Program names can be up to 8 characters in length, but may not include spaces or periods.

Method No.2 Copying and using an existing program.


If a similar program to that required already exists, it may be copied and given a new name. This allows similarly formatted programs to be used without having to re-type the information.

(1) Using the  keys High Light the existing program to be copied 

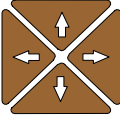
Press:  this brings up a menu,  with Copy High Lighted

Press  This will display a second menu  High light Other and Press 

This will bring up a third menu  type in the new program name

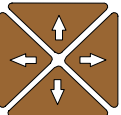
“EXAMPLE” and Press  this will create a new program named EXAMPLE and also leave the original program “SAMPLE1.G” intact. This copied program can now be edited to suit the new part. It is not necessary to type the file extension (.G) as this is completed automatically.

To change or EDIT an existing program.




(1) High Light the program to be changed / edited using the  keys.

(2) Press:  to enter the file editor

To DELETE an existing program.

(1) High Light the program to be DELTED using the  keys. Press  

(2) To avoid accidental deletion of programs the system requests verification of deletion

 To delete the program Press  

To UNDELETE / RESTORE a deleted program.


Should a program become accidentally deleted the following method can be used to restore the program.

NOTE: The restore capability of the system is determined by the space available on the drive. If the space on the drive where the program was stored has been reused restore will not be an available function.

(1) From the PROGRAM page Press:

Utility

(2) Using the  keys, High Light Restore  Press 

(3) The system will list any and all programs that are available to be restored. Using the  keys High Light the program to be restored.


(4) Type in the first letter of the program to be restored (the first letter of the program name is lost when a program is deleted).

(5) Press **Cont** if the program can be restored the system will place the program file in its alphabetical location.

NOTE: ALWAYS CHECK THE VALIDITY OF A PROGRAM AFTER RESTORING. SOME OF THE INFORMATION WITHIN THE PROGRAM MAY HAVE CHANGED.

To SELECT a program to run in the AUTO mode.

Once a program has been created and verified to be correct the operator must SELECT the program to run when in the Auto or Single Step mode.

(1) From the PROGRAM page using the  keys High light the program name.

(2) Press **Select** the selected program to be run will now be displayed in the lower right corner

of the screen.


Selected Program: EXAMPLE.G

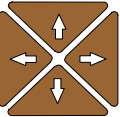
To COPY a program to the A: Drive (Floppy Disk).


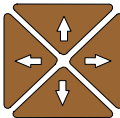
The 5000M control uses the C:\ drive and the USER directory to store programs within the system. When in the PROGRAM directory the drive and directory are displayed in the lower left corner of the screen.






The 5000M uses the A:/ drive for the Floppy Disk Drive. Programs may be copied to or copied from the Floppy Drive individually or in multiples.

(1) From the PROGRAM directory use the  keys to High light the program to be copied to the A:\ (Floppy Disk) drive. (Place a floppy disk in the A:\ floppy disk drive unit).

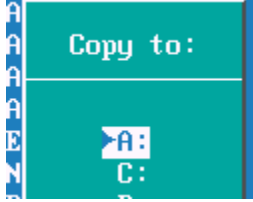
(2) If multiple programs are to be copied High light the first program to be copied using the  keys

and Press  Then using the  keys again High light the next program to be copied and

Press  Continue until all programs to be copied are High lighted. 

(3) When all programs to be copied are High light Press 



(4) With Copy Hi-lited  Press 

(5) This brings up a menu  With A: High lighted Press

The lower left corner of the screen displays COPYING.... while the program is copied. The procedure is complete when COPYING.... is no longer displayed.


To COPY a program from the A: Drive (Floppy Disk) to the Program Directory C:\USER


The 5000M uses the A:/ drive for the Floppy Disk Drive. Programs may be copied to or copied from the Floppy Drive individually or in multiples. To view or copy the programs on a Floppy Disk, the operator must first LOG to the Floppy disk Drive (A:\)



(1) From the PROGRAM directory Press  (Shift) this will change the descriptions of the F keys, Press  This shows a menu of the drives that the operator can view on screen.


(2)  High light A: and Press  the programs on the Floppy Dive (A:\) will now


be displayed.

(3) Use the  keys to High light the program(s) to be copied to the Program Directory (C:\)


If multiple programs are to be copied High light the first program to be copied using the  keys

and Press  Then using the  keys again High light the next program to be copied and

Press  Continue until all programs to be copied are High lighted.


(4) When all programs to be copied are High lighted Press 


(5) With Copy High lighted  Press  A menu is show 

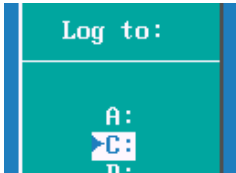

With C: High lighted Press  The lower left corner of the screen displays COPYING. while the program(s) are copied. The procedure is complete when COPYING.... is no longer displayed.

Continued....

To return to the Program Directory , LOG back to C:\USER

(1) Press  (Shift) this will change the descriptions of the F keys,

(2) Press  This shows a menu of the drives that the operator can view on screen.

(2)  High light C: and Press  the C:\USER (lower left corner of the screen)

will now be displayed.

To COPY program files to the A: (Floppy Disk) when using the CAM

When using the CAM Editor to write programs the 5000M system will create additional program files, and ALL these files MUST BE COPIED to ensure correct operation of the program.

The program name to which the CAM is to be associated MUST be High lighted prior to entering CAM or (F4 from the Program Directory). this program will have extension of **.G**

The correct program must be high light because upon entering the CAM , the system creates a file with the same name as the program but with an extension of **.CAM** and also a file with the extension of **.GEO** These files are used to record the CAM (.CAM file) settings inside the CAM and also to record the GEOMETRICAL ELEMENTS created (.GEO file).

Once a Shape has been created a 3rd file is also created, this file will have an extension of **.1**


NOTE: If more than one Shape is created the shape files will have extensions of **.2 .3** etc. assigned in the order in which they were created.


Example:	original program	PROGRAM.G
	file created by shape editor	PROGRAM.CAM
	file created by shape editor	PROGRAM.GEO
	first shape file created	PROGRAM.1
	second shape file created	PROGRAM.2
	third shape file created	PROGRAM.3 etc.....
	first tool path	PROGRAM.T1
	second tool path	PROGRAM.T2
	third tool path	PROGRAM.T3 etc.....

To COPY all the program files to the A: (Floppy Disk) when using the CAM continued.....

The 5000M uses the C:/USER drive in the Program Directory. Upon entering the Program Directory the programs displayed will all have an extension of .G

To view all the program files described on the previous page the operator must first LOG to the the root of C:\USER directory (this is where all program files with any extension can be viewed). This is achieved by using wildcard symbols. These symbols are * . * (any program name with any extension).

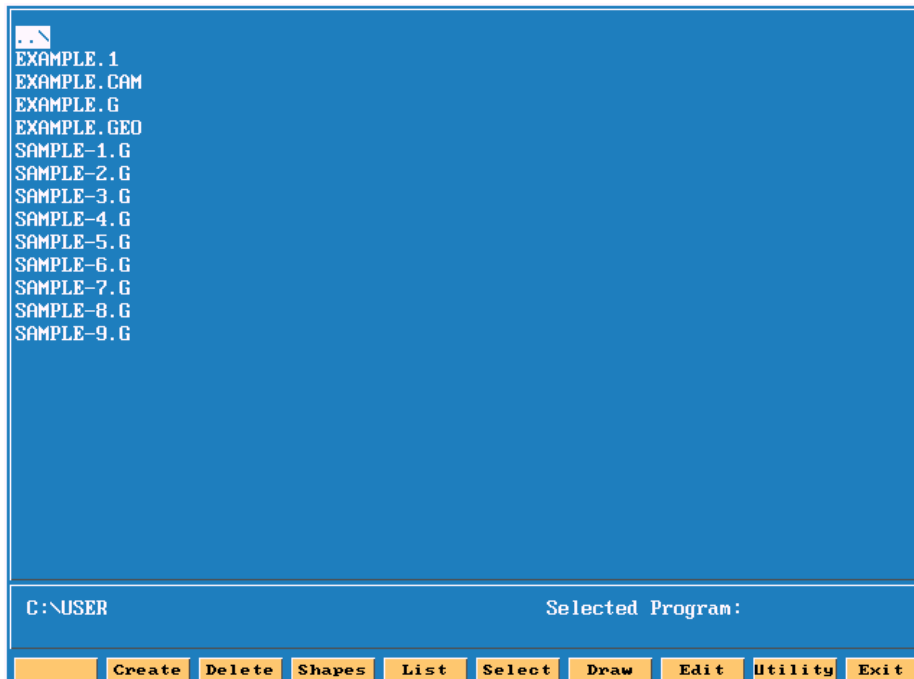
(1) From the PROGRAM directory Press  (Shift) this will change the descriptions of the F keys,

Press  This shows a menu of the drives that the operator can view on screen.

(2) High light Other:  and Press 

(3) At the next menu  type * . * Press     

(4) Press  The screen will now display all programs with all extensions.




To COPY all the program files to the A: (Floppy Disk) when using the CAM continued.....

An alternative method is also provided to obtain the screen showing all programs with all extensions Directory.



Display

This method is completed using the  and **Display** keys.

This sequence of key strikes toggles the Program Directory display through the following screens. The key strikes are repeated to toggle through the screens shown below.

```
EXAMPLE.G
SAMPLE-1.G
SAMPLE-2.G
SAMPLE-3.G
SAMPLE-4.G
SAMPLE-5.G
SAMPLE-6.G
SAMPLE-7.G
SAMPLE-8.G
SAMPLE-9.G
```

Screen on entry into Program Directory (displays .G programs only)

```
EXAMPLE.G          716  10/12/1999  03:36 pm
SAMPLE-1.G        1,114  02/16/1999  11:42 am
SAMPLE-2.G        1,184  02/16/1999  11:45 am
SAMPLE-3.G        1,053  02/16/1999  11:45 am
SAMPLE-4.G        1,686  02/16/1999  11:46 am
SAMPLE-5.G        1,725  02/16/1999  11:46 am
SAMPLE-6.G        2,339  02/16/1999  11:46 am
SAMPLE-7.G        1,566  02/16/1999  11:46 am
SAMPLE-8.G        2,817  02/16/1999  11:47 am
SAMPLE-9.G        3,557  02/16/1999  11:47 am
```

Screen after 1st sequence (displays .G programs and size date and time created)

```
EXAMPLE.1
EXAMPLE.CAM
EXAMPLE.G
EXAMPLE.GEO
SAMPLE-1.G
SAMPLE-2.G
SAMPLE-3.G
SAMPLE-4.G
SAMPLE-5.G
SAMPLE-6.G
SAMPLE-7.G
SAMPLE-8.G
SAMPLE-9.G
```

Screen after 2nd sequence (displays all programs *.*)

```
<DIR> 04/19/1999  03:18 pm
EXAMPLE.1          594  11/19/1999  02:05 pm
EXAMPLE.CAM       6,028  11/19/1999  02:05 pm
EXAMPLE.G          716  10/12/1999  03:36 pm
EXAMPLE.GEO       3,302  10/14/1999  04:41 pm
SAMPLE-1.G        1,114  02/16/1999  11:42 am
SAMPLE-2.G        1,184  02/16/1999  11:45 am
SAMPLE-3.G        1,053  02/16/1999  11:45 am
SAMPLE-4.G        1,686  02/16/1999  11:46 am
SAMPLE-5.G        1,725  02/16/1999  11:46 am
SAMPLE-6.G        2,339  02/16/1999  11:46 am
SAMPLE-7.G        1,566  02/16/1999  11:46 am
SAMPLE-8.G        2,817  02/16/1999  11:47 am
SAMPLE-9.G        3,557  02/16/1999  11:47 am
```

Screen after 3rd sequence (displays all programs *.* and size, date and time created)

```
EXAMPLE.G
SAMPLE-1.G
SAMPLE-2.G
SAMPLE-3.G
SAMPLE-4.G
SAMPLE-5.G
SAMPLE-6.G
SAMPLE-7.G
SAMPLE-8.G
SAMPLE-9.G
```


C:\USER Selected Program:


Create Delete Shapes List Select Draw Edit Utility Exit


Screen after 4th sequence returns to the Program Directory (displays .G programs only)

To COPY all the program files to the A: (Floppy Disk) when using the CAM continued.....


To COPY all the EXAMPLE program files shown below complete the following:

(1) Use the  keys to High light the first program to be copied (EXAMPLE.1) to the Floppy Drive

(2) Using the  key High light the remaining EXAMPLE program files



(3) Press  and with Copy Hi-lited  Press 

a menu is displayed  with A: Hi-lited Press  The lower left corner of the

screen displays  Press 

COPYING.... will be displayed while the programs are copied. The procedure is complete when
COPYING.... is no longer displayed.

To COPY program files (all extensions) from the A: (Floppy Disk) to the C:\USER directory.

- (1) From the Program Directory (C:\USER) use either method described previously to display the programs with all the extensions.
- (2) Insert the Floppy Disk into the Drive
- (3) LOG to the A: Drive
- (4) High light the program files to Copy to C:\USER Press ENTER
- (5) LOG back to the C: Drive