



## ***Using CCL to Upload and Download from your CNC Console General Instructions***

The concept of CCL (CCI's Command Language), is to create a "CCL command program" at your CNC console with the CNC's editor into which you enter the command to either get a file from the SuiteFactory database or save one to that database. Response files are sent to the CNC at appropriate times with codes describing an action or problem. See code list on last page of this document.

The SuiteFactory system administrator must set up the CCL leader and trailer format of this response file so that it is compatible with the specific CNC.

For example, the CCL leader for a Fanuc CNC is % CR LF O2222 CR LF and the trailer is %. To do this, select the CCL tab in the machine properties dialog. First checkmark "Enable CCL Command Language". Set the timeout to at least 60 seconds. Setup the CCL Leader and Trailer. Using the CCL Leader dialog, enter 1,% 1,CR 1,LF 1,O 4,2 1,CR 1, LF and then click Close. Using the CCL Trailer dialog enter 1,%. If M02 or M30 is required to mark the end of a program then the trailer is 1,M 1,O 1,2 1,CR 1,LF 1,% and then click close.

Another example is for a Siemens CNC. The leader is %2222<CR><LF> and the trailer is M30<CR><LF>.

Please note that the selection of 2222 is only an example. You can use whatever program name you wish.

### ***To Get a File from the DNC System***

One time – memory mode

**You are storing the program in CNC memory.**

1. Edit the 'CCL command" program, O1111, for example, (or whatever it is called on your CNC):
  - Alter the Xvalue where 'value' is the name of the file exactly as it is stored in the SuiteFactory database.
  - If you have multiple versions of the file create a second line with Xvalue where 'value' is the version you want.
2. Send (Punch, Output) program O1111 to the DNC system:
  - When sending is complete wait at least 10 seconds.
3. Get the file you requested:
  - Select the Read (Input, In) function on the CNC. If required by the CNC, type the CNC file name before executing the Read.
4. When reading is complete, check your program and make sure there were no problems. If the DNC system had a problem locating the requested file or if that file was not assigned to your machine, instead of the program you requested, you will get a response file, O2222, for example, (or whatever it is called), with a coded error message rather than the file you requested. For example, an N6 response means that the program could not be found in the DNC database. Make sure that you spelled it correctly in the "CCL command program" O1111. An N12 response means that the program exists in the database but it is not assigned to your machine.
5. If you got a response file delete it now. Correct the problem then try again.

## **To Get a File from the DNC System**

Loop mode – Drip Feed

**You are running the program in drip mode via the RS-232 port**

6. Edit the "CCL command program", O1111, for example, (or whatever it is called on your CNC):
  - Alter the Xvalue where 'value' is the name of the file exactly as it is stored in the SuiteFactory database.
  - If you have multiple versions of the file create a second line with Xvalue where 'value' is the version you want.
  - Add a third line with M0 (*that's the number zero*) or M02 alone on that line.
7. Send (Punch, Output) program O1111 to the DNC system:
  - When sending is complete wait at least 10 seconds.
8. Start running the program you requested:
  - Put the CNC in "Tape mode" or select program source as an RS-232 port. This depends upon how the CNC works. Consult the manual. Not all CNC's allow drip feed mode.
  - Press Cycle Start on the CNC to begin executing the program. ***Please note! In this mode you cannot backup in the program. If you have to start over from some previous line then you will have to go to the DNC computer console to Search for that "safe start" line in the Monitor Machines window.***
9. If the DNC system had a problem locating the requested file or if that file was not assigned to your machine, instead of the program you requested, you will get a response file, O2222, for example, (or whatever it is called), with a coded error message rather than the file you requested. For example, an N6 response means that the program could not be found in the DNC database. Make sure that you spelled it correctly in the "CCL command program" O1111. An N12 response means that the program exists in the database but it is not assigned to your machine.
10. If you got a response file. Correct the problem then try again.
11. After the program is completed, it re-queues itself so that you can make another part.
12. When you are done you have to go to the DNC console and Abort the job via the Monitor Machines window.

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## **To Send a File to the DNC System**

Save a program in the DNC database

1. Edit the "CCL command program", O1111, for example, (or whatever it is called on your CNC):
  - Alter the Yvalue or Zvalue, where 'value' is the name of the file exactly as you want it named on the DNC system.
    - If your system is configured for single version only then "value" must be a new and unique name.
    - If your system is configured to use the automatic naming function for new files then make 'value' = 0. For example, Y0 or Z0.
2. Send (Punch, Output) program O1111 to the DNC system:
  - When sending is complete wait at least 10 seconds.
3. Get the response file which tells you the DNC system is ready to save your program:
  - Select the Read (Input, In) function on the CNC. If required by the CNC, type the CNC file name, (for example, O2222) before executing the Read.
    - The contents of O2222 should have the code, N1, in the first line. This means that SuiteFactory is ready to receive the DNC file you want to save.
    - If there was a problem with your request to save the file, instead of the N1 code you will get a different code. For example, N7 means that SuiteFactory could not use the name, "value", you specified probably because your system is configured for single version only and the DNC file name you specified was already used. Delete the response file, change the value to something unique and try again.
4. **Delete the response file** (for example, O2222) from CNC memory.
5. Send (Punch, Output) the tape file you want to save:
  - When the sending is complete, wait at least 10 seconds.
13. Get the response file (for example, O2222) which tells you that SuiteFactory successfully saved your program:
  - The contents of O2222 should have the code, N2, in the first line. This means the DNC system successfully received the tape file that you wanted to save.
6. **Delete the response file** (for example, O2222) from CNC memory.

## CCL Response Codes

- N1 = The DNC system successfully queued the specified file for receiving. The shop floor operator can now output (punch) the file to the DNC database.
- N2 = The DNC system successfully received the file.
- N3 = After a CCL command to queue a file to be received, the file sent from the CNC file contained an Abort command sequence (N1M30). The DNC file has been deleted from the DNC database.
- N4 = The DNC system did not successfully receive the file.
- N5 = The CCL command file was not valid because there was no command (no X, Y or Z line.)
- N6 = The requested DNC file does not exist.
- N7 = The file name you specified already exists and you are not allowed to overwrite an existing file.
- N8 = The CCL command file was not valid because there was no file name following the X, Y or Z command.
- N9 = The CCL command file contained an optional version command (Xversion\_number) but the version\_number text was not a number.
- N10 = The CCL command file was empty (contained no data.)
- N11 = A CCL command was found but the file\_name contains illegal characters.
- N12 = The specified DNC file exists but it is not assigned to this machine.
- N13 = The file requested was found, but local copy or leader/trailer stripping is required but failed. (Local copy and leader/trailer stripping which forces local copying of files are set up via machine parameters.)
- N14 = The CCL Command file is a valid Mazak CMT file but the format is not supported. (Such as T1 or M1.)
- \*N15 = The CCL command file appears to be a Mazak CMT file but is not valid. (Points to a software problem: CMT signature is listed as supported but the embedded CCL command cannot be located.)
- N16 = The requested DNC file exists but it is empty. (It might be queued up for receiving data from a CNC.)
- N17 = The requested file is Checked Out.
- N18 = The requested file is currently being used exclusively (being uploaded or edited.)
- N19 = The requested file exists and is assigned to your machine but it is not Approved.

\* This response code should never occur. Getting it indicates a software problem. Please contact CAD/CAM Integration, Inc.

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