

*Getting Started with...*

**CIMpro** Version 6.8

*A guide to using the **G-Post/APT System** and **CIMpro** (Graphical User Interface)*

## ***Austin N.C., Inc. Technical Assistance***

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**Getting Started with...CIMpro Manual**  
**Version 6.8**

January 2020

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MAN-CP

## ***Read This First!***

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If you are one of those people who likes to read software manuals from cover to cover in one sitting, you can skip this section. However, if you prefer to read only the portions of the manual that explain the tasks you want to do, you can save time by reading these pages before you go any further.

Chapter 1 contains information about the new features and corrections in this version of our NC Software which includes CIMpro, APT, Option File Generator, G-Post, FIL and the CAD/CAM Interfaces.

Chapter 2 explains the CIMpro system requirements, both software and hardware, for the Windows platform.

Chapter 3 covers all aspects of installing CIMpro on the Windows platform.

Chapter 4 details the CIMpro system setup and all of the configuration requirements and options.

Chapter 5 explains the CIMpro, G-Post and APT system license setup. This includes acquiring, installing and verifying a Node or Server license on the Windows platform.

Chapter 6 is the CIMpro tutorial and details how it is used in conjunction with the APT system and CAD/CAM interfaces. This includes launching of the G-Post.

Chapter 7 details the Utility Programs that are available to all CIMpro, G-Post and APT users.

We hope that after you read the manual, you will let us know what you liked or disliked about it. We encourage your comments as they help us to improve our products. (Besides, how often do you get a chance to tell *us* what to do?)



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## **Getting Started with...CIMpro**

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# 1 What's New

This chapter contains information about the new features and corrections to the Austin N.C., Inc. suite of software. If you are a current or new user please review this section.

## 1.1 CIMpro - Graphical User Interface

- The G-Post option, when the CATIA CAD/CAM interface is selected, has a new check box to allow for the source file to contain the **MACHIN/cmd** and not force the user to select a post from the Select Post list. Some users use a machine specific CATIA PP Table file, that places the **MACHIN/UNCX01,XX** in the aptsource file. In this case, you don't need to select a post, but directly process the aptsource file and have G-Post use the **MACHIN/...** statement to select the post processor.
- The CIMpro Graphical User Interface uses an updated version of **JAVA 1.8.0\_201**. The JAVA Runtime Environment that is installed with all versions of the G-Post software for use with the CIMpro, Option File Generator and 3D Plotter.
- Legal Information pertaining to the JAVA Runtime Environment (JRE) Version 1.8.0\_201:

Portions of this application(s) provided by **Austin N.C., Inc. (ANC)** are written in Java and/or JavaFX. In order for Java (and JavaFX) to run on a user's computer, the computer must have a Java Runtime Environment (JRE) installed. ANC packages a JRE with the release that allows the Java portion of the application to operate on a user's computer. No additional JAVA software is required to be installed for our software (CIMpro, Option File Generator, etc.) to operate.

For the **V6.8 P20 release (32-bit version)**, the JRE used is version **1.8.0\_201** and was freely downloaded from Oracle. It is the last free version of the JRE provided by Oracle. Please see the related documents in this folder for more information about the use of the JRE. These documents are located in the actual JRE at: **..\Camsys\ncjlibs\jre**. For your convenience, they are also grouped along with this document.

These documents include:

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### Release

**ThirdPartyLicenseReadMe.txt**

**ThirdPartyLicenseReadMe-JavaFX.txt**

ANC or our application(s) do not use any of the **Commercial** portions of the JRE mentioned in **License** document. In addition, the JRE is provided *as is* and unmodified.

**NOTE:** The APT-G-Post software applications **DO NOT** access the internet in any way and/or have any code or links to accomplish this.

## 1.2 G-Post - Generalized Post Processor

- The Siemens **REAM** cycle format allows for a retract feed rate after the cycle that can be different from the infeed feed rate. This has been added as the optional **ZFEED,f** to the **CYCLE/REAM** command.

Example:

Input: **CYCLE/REAM,DEPTH,50,MMPM,125,CLEAR,1,ZFEED,30**  
Output: **CYCLE85(2,1,1,50,0,125,30)**

If **ZFEED** is not given, G-Post will use infeed for both as before. **Note: CYCLE/REAM** must be in couplet format to use **ZFEED**

- An extra line of the **INSERT/chars** was printed to the LST file. This has been corrected.
- When the Time Stamp option is enabled in the Option file, the Date and Time string was output with lower case characters. This has been changed to be in all upper case as: **(DATE:09/11/17 TIME:15:27:20)**

### 1.2.1 G-Post Mill Only

- Add the 3DS argument to wxapt17.exe to process new aptsource files for the 3DS system. This includes
- This option allows you to reset the ABC-rotary axes winder (**HIPRDX**) to zero, when the current ABC position is zero. This may be needed in some cases, when the rotary resolution and the ABC axes output formats do not match, typically set by the user for certain **LINTOL** modes. This only applies to Mill posts.

**INTCOM(4768) - (IZERHPXABC)**  
Default = 0, None  
1, Set primary ABC axis to zero  
2, Set secondary ABC axis to zero  
3, Set both primary and secondary ABC axis to zero

- When CLxyz-IJK output is selected in Option file/Machine/Transforms/Output panel, G-Post still generated ABC angles instead of IJK. This has been fixed. A new common was added for this option, **INTCOM(4767)**. When CLxyz-IJK is set in Option file Output panel, FIL was used to convert the ABC registers as IJK or A3=, B3=, C3= for the tool axis. With this new option, G-Post can output IJK automatically for the input tool axis.

**INTCOM(4767) - (IAUTOUTIJKFG)**  
Default = 0, FIL to output IJK  
1, G-Post to output IJK

- In some cases, when Auto-Repos is set to go to the ABC position that is limit for **RAPID** motion, it still output the out of limit ABC angle. This has been fixed.
- With Planar Machining option set to output ABC machine angles, the ABC angles saved in **DBLCOM(1118-1120)** for FIL were not correct. This has been fixed.

### 1.2.1 G-Post Mill Only Continued...

- With Planar Machining option set to use **GOTO/toolaxis** vector output, G-Post should not use any of the **CSYS** options. If the **CSYS** reverse matrix option is set, ABC angles can be incorrect. This has been fixed.
- With **CYCLE/DEEP,1,10,IPM,INCR,2** input, the **INCR** value is larger than the hole depth. This caused the **DEEP** soft cycle with G0/G1 to drill to **INCR** depth instead of limiting to the hole depth. This has been fixed.
- Added B-axis turning support to 5-axis mill-turn C/B machine. The CL file can have tool axis vectors (I,0,K) with MODE/TURN to control the B-axis angle. A new common was added to support this, INTCOM(4624).

INTCOM(4624) - (IBAXTRNFG)

Default = 0, No  
1, Yes

- When Euler Angles option is set for Planar Machining, small angles in IJK (less than 5) may be output as zero due to round off. This has been fixed.
- When planar machining is enabled and a G00 positioning move before the G07/G68 3+2 machining block is set, the G00 ABC angles were not output correctly in some cases. This happens, if the **CSYS** matrix is similar to the last one. This has been fixed.
- When **MULTAX** is enabled, the circle axis and the **GOTO/toolaxis** must match to output G02/G03 for circular motion in the CL file, if they do not match, then G01 will be output. CATIA can generate **CIRCLE/axis** and the **GOTO/toolaxis** which may not match exactly for the **GOFWD/motion** in the aptsource file. To avoid the G01 output, G-Post has been updated to test for the match within the vector tolerance as set in the Option file Machine Tool Type, Spec panel. You can set it a small value like 0.000005 to avoid G01.
- Tool Axis vector IJK can be close to unit one like 0.99997 which may cause unwanted large ABC-angle rotations especially on machines with rotating tables. This tolerance value is used to round that IJK component to the value one. For example, if K-component is 0.99997 then a tolerance value of 0.0005 will round up K=1 and will make the tool axis (0,0,1). This tolerance value is stored in a new double common location, DBLCOM(1122), and can be set in the Option file Machine Tool Type - Specs panel under the Vector Tolerance box.

DBLCOM(1122) - (UVECTOL )

Default = 0, not to test for this condition.  
Range = +/-99999.0

- When the end point correction is set on the Motion - Circle panel of Option file, a circular motion with **ARCSLP/ON** did not change Z-axis motion for the helical move. It stayed at the last Z as constant. This has been fixed.
- For 5-axis A Table, B Head machines the closest resolve to select shortest AB rotation from the previous **GOTO/pnt** did not work correctly in some cases. It rotated the A-axis by 180 degrees back and forth for successive **GOTO/pnts**. This has been corrected in V6.7 Build=0243 and V6.8 of Mill G-Post EXE file.

### 1.2.2 G-Post Lathe Only

- In some cases, the Spindle on code M03 was not output if the direction was same as before. This has been corrected to output M3/M4 always.

## 1.3 Option File Generator

Option file type 5-axis mill-turn C/B machine, added a new tab "B-Axis Turning". The input CL file must be in **MULTAX/ON** mode with (I,0,K) tool axis in **GOTO**. This uses the new INTCOM(4624) option 1

[ ] Enable B-axis output for Turning mode with Tool Axis (I,0,K) in GOTO

Caution: Input CL file must be in **MULTAX/ON** mode with (I,0,K) tool axis in **GOTO**

- Most of the NC controls will accept both upper and lower case alpha characters in the tape file. Some Controls may want only upper or lower case alpha characters and not in mixed mode. We add a new Option file selection on the File Format – MCD File – General tab that applies to both Mill and Lathe Option files. It allows you to have the G-Post convert all characters in the tape file to Upper or Lower case. Using this setting the G-Post will convert the tape file to all Upper or Lower case at the end of processing. NOTE: Use only if it is needed by your control as it is an extra step in the processing, which may not be needed. A new common was added to address this new option, INTCOM(4766).

INTCOM(4766) - (IPCHUPLWCASE)

Default = 0, No conversion

- 1, Convert to upper case
- 2, Convert to lower case

- Re-designed the fixture offset panel for more clarity and make the old **SELECT/gg,ADJUST,hh** command as legacy or obsolete command. The new panel will be shown for new post processors but in an existing post processors if the user had already selected any item of the old panel it will be displayed. The new panel will have just two options:

[ ] Offset Address                            \$\$ Letter address used to output the fixture offset, H is the default  
[ ] Base Value to be added                    \$\$ Value added to the input SELECT/# value, zero (0) is the default

Offset Address: By default, **SELECT/n** offset is applied to H-code on a block by itself, if this is desired the no changes are required. If you want an offset with a G code, then select letter address G to output G54 etc. for the **SELECT/54** command or whatever value is specified. Or select an extra letter address like E and Alias it as "G54.1P" in the MCD file panel to output G54P1 for the **SELECT/1** command.  
"INTCOM(496)"

Base Value: Specifying a base value of 53, will cause the G-Post to add this value to the **SELECT/1** command to output G54 and **SELECT/0** will output G53 to turn off fixture offset. If you use **SELECT/53-54** type command, then leave the base value as zero. The default is zero (0).  
"INTCOM(3434)"

### 1.3 Option File Generator Continued...

**Note for Lathe Option files:** Offset Address: By default, **SELECT/n** is applied to T-code without indexing the turret so leave the address as blank, if this is desired.

If you open an existing V6.7 or earlier Option file with the V6.8 Option File Generator you will be prompted with the following question: "Your Option file is set to use the legacy **SELECT/gg,ADJUST,hh** command, Do you want continue to use this mode (Y/N)?" If the answer is Y, then you will see the old Fixture Offset panel, if the answer is N, then you will see the new Fixture Offset panel.

A new common has been added to support the use of the Base Value:

```
INTCOM(3434) - (ISELG)
Default = 0, No conversion
Range = 0 - 999
```

### 1.4 FIL (Factory Interface Language)

- A **T2=TEXT/READ,0** command after a **RSLT=FILEF(0,1,T1)** with a \$-sign in the prompt text of T1 as the first character to hold the Linefeed did not return the correct text string in T2. This has been fixed.
- When **CONTRL/UPPER\_CASE=OFF** is used, the letter Z is output as % with the following REPLAC/cmd. This has been fixed to output "Axyz 0" instead of Axy% 0" for "G0".

```
CONTRL/UPPER_CASE=OFF
T1=TEXT/'G0'
T2=TEXT/'Axyz 0'
REPLAC/T1,T2
```

### 1.5 APT System

- The **LOADTL/#** command with more than 8-digits in the APT input was truncated and output to the ACL file as **LOADTL/\*\*\*\*\***. This affects only the ACL output. This has been fixed. **Note:** The binary CL file sent to the G-Post was not truncated.
- APT programs with a very large macro file (<65k lines) may fail with a Multiple Check Surface motion command inside a macro, causing it to transfer to wrong label in the **GOFWD/cmd**. This has been corrected.
- APT programs with a very large macro file (<65k lines) may fail with an IO error due to internal limitation. A new warning message has been added to help with reducing the size of the APT program.

## 1.6 CAD/CAM Interfaces

### 1.6.1 CATIA

- Add the 3DEXperience argument to wxapt17.exe to process new aptsource files for the 3DEXperience CAM system (Formerly known as CATIA V6, now part of the Delmia software package). This includes dropping the "\_I" in the input file name test\_I.aptsource to make test.PU1 for vaulting in 3DEXperience and moving the **PARTNO** to top of file.
- The 3DEXperience CAM system version can generate new commands like **OP\_DATA/**, **OP\_NAME/** etc. These commands contain a mix of tokens (numbers, words and long strings), that are in non-APT standard format. They are now output as **REMARK** lines for the post to catch in a FIL if needed.
- In some cases a full 360 arc motion **GOFWD/cmd** may fail during the APT process with a Section-2 error. This has been corrected.

### 1.6.2 NX

- The option **UG\_HELIx\_CIRCLE = ON** is set in config.tbl file to process **CIRCLE/--,TIMES,n** from the CLS file. In some cases, this was applied when **UG\_HELIx\_CIRCLE = OFF** was set causing bad G2/G3 output. This has been fixed.

### 1.6.3 Gibbscam

- When in **MULTAX/ON** mode, the GibbsCam CL file turns off **MULTAX** for the **GOTO/xyz** after the **MOVARC/cmd**. Without, IJK tool vector, G-Post reverts back to (0,0,1) tool axis causing invalid G2/G3 output. Wxpost5.exe has been updated to skip the **MULTAX/OFF** command.

## **2 CIMpro System Requirements**

The CIMpro suite of products runs on the Microsoft Windows operating system platforms. This is a list of the currently supported versions and the minimum hardware required.

### **2.1 Operating Systems**

- Windows 7 – Windows 8 – Windows 10
- Windows Server 2008 - Windows Server 2012 - Windows Server 2016

**NOTE:** *The new version of the Java Runtime (JRE 1.8.0\_201) we supply with CIMpro V6.8 does not support Windows XP! The lowest version of Windows that is supported is Windows 7 SP1. If you are still using one of these Windows operating systems you will need to keep using Version 6.6 or earlier.*

\*\*\* SUN Solaris x86 (for the Intel based hardware platforms) is **not supported!** \*\*\*

### **2.2 Hardware**

- 1 GHZ Intel or AMD processor (32 or 64 bit)
- 1 GB of RAM (minimum)
- 500 MB of hard disk space
- 64 MB of disk swap space (minimum)
- 800 x 600 VGA video display (1024 x 768 recommended)
- Windows-supported display adapter



## 3 Installing CIMpro

### 3.1 Updating an existing installation

#### 3.1.1 Windows Platforms

To update CIMpro, insert the CD (**NC Software V6.8**) into the CDROM drive of your computer. The setup program should startup automatically once the CD is inserted and the drive closed. If not, run the **setup.exe** program on the root level of the CD drive and answer the questions as they are presented to you. The installation procedure is self-contained and requires no additional explanation. Once the update installation procedure has completed, CIMpro is ready to use.

**Note:** The update installation procedure will not affect your current license files, the **CONFIG.TBL** file or any of the contents of the system library, **UNC\$LIBRARY**, your existing post processor option files are safe. Skip to Section-6 of this manual.

### 3.2 Installation (Windows Platforms - Node License)

To install CIMpro, insert the CD (**NC Software V6.8**) into the CDROM drive of your computer. The setup program should startup automatically once the CD is inserted and the drive closed. If not, run the **setup.exe** program on the root level of the CD drive and answer the questions as they are presented to you. The installation procedure is self-contained and requires no additional explanation.

If this is a new installation the **CAMSYS** system environment variable will be defined for you automatically. The **CAMSYS** system environment variable defines the directory where the **config.tbl** file is stored. In turn, the **config.tbl** file defines the system parameters for the complete CIMpro system (see the **System Setup** chapter of this manual for details on the **config.tbl** file). If you want to put your **config.tbl** file in a location other than **CAMSYS** you will need to re-define the environment variable manually (See page 3-1). The installation program will also give you the option of creating a desktop icon for CIMpro.

If the installation program sets the **CAMSYS** environment variable for you it will prompt you to reboot your computer once the installation is complete. You will need to allow the installation program to do this or do this yourself before running CIMpro for the first time, in order to establish the **CAMSYS** environment variable.

After rebooting your system you need to test the CIMpro installation to assure the proper licenses have been obtained and installed. To do this you must run the file **wprtsysid.exe**; this file is located in the **UNC\$SYSTEM** directory, as defined by the **config.tbl** file. See the **License Setup** chapter of this manual for details on running the **wprtsysid.exe** file. Once the proper license files have been installed, CIMpro will be ready to use.

### 3.3 Installation (Windows Platforms - Server License)

**Note:** The server license will only work using Windows 7/8/10 and Windows Server 2008/2012/2016 as the server and/or the clients. The **Server** does not have to be a **Server Operating System** but must be able to act as a **file server** to all the configured clients. Users **will not** be able to run the CIMpro or Option File Generator applications from the console of the machine acting as the server!

There are a few things that **MUST** be done before the software is installed.

1. Choose the physical location on the server that the software will be installed. This location can be on any local server drive and the directory of your choice. (i.e. **C:\ANC**)
2. Set the permissions on this **drive/directory** making sure that all your users have access to it.
3. Decide how this shared drive will be mapped on the users PCs (i.e. **S:**). All of the users **MUST** map this location as the same drive letter. (i.e. **C:\ANC = S:**) **THIS IS REQUIRED!**
4. After the above three steps are completed the installation of the software can proceed.
5. Log on to one of the Client machines and mount the CD in a CDROM drive it has access to. The setup program should startup automatically once the CD is inserted and the drive closed. If not, run the setup.exe program on the root of the CD drive and answer the questions as they are presented to you.
6. When prompted for the location for the software to be installed enter the mapped drive letter you specified above and the directory name CAMSYS. (i.e. **S:\CAMSYS**). The installation procedure is self-contained and requires no additional explanation.
7. The installation program will also give you the option of creating a desktop icon for CIMpro. This will only create an icon on the Client machine you are installing the software from. You will need to create desktop icons to launch CIMpro on all the other Client machines manually.

Complete the installation by clicking on the **Finish** button.

The installation of the software is now complete. Now you must configure the installation to meet your needs.

1. Find the file **config.tbl**. This file is located in the **CAMSYS** directory. Open this file in a text editor such as **wordpad**.
2. Verify that the **UNC\$...** settings are pointing where you want them to, (See the **config.tbl** section of this manual).

All of the **UNC\$...** variables should be pointing at the mapped drive on the **Server** as shown except for **UNC\$SCRATCH**. This should point to a local directory on the **Client** machine. You will have to manually create this directory since the installation script does not perform this function. The default configuration shows the scratch directory as being on the mapped network drive (**S:\CAMAPT\SC**). This must be changed to something like **UNC\$SCRATCH = C:\SCRATCH**, it does not have to be named **SCRATCH**; you can give it any name you wish. **DO NOT** forget to put the trailing back slash on this path description! The scratch directory must have **READ, WRITE, EXECUTE** and **DELETE** permissions for the **Client** user.

**UNC\$CAMLIC=path** this parameter is used to define the location of the server license files. The **path** must be exactly **\CAMLIC\** and the server disk name must be the same as where **\CAMSYS\** is located. The **path** must have the trailing backslash (**\**).

**Note:** This parameter is only used when a Server License is present.

**Example:** (In this example the server disk is the **S:** drive.)

**UNC\$CAMLIC=S:\CAMLIC\**

The **CAMLIC** directory is where the license count and log files are created during CIMpro execution and it must have **READ, WRITE, EXECUTE** and **DELETE** permissions for all the **Client** users.

3. If you gave us your **Server's System ID** before we sent you the installation CD you are now ready to complete your installation, if not, you need to get this ID number and inform us so we can create a license file for you. Follow the instructions in the **License File Setup** section of this manual.

**Note:** The shared directory that contains the Austin N.C., Inc. software must already be mapped as a drive on the **Client**.

4. Make sure each **Client** has a System variable named **CAMSYS** defined (i.e. **CAMSYS = S:\CAMSYS**). Follow the instruction in the **System Setup** section of this manual.
5. You should now be able to start the CIMpro Software.

### 3.3.1 Using a separate config.tbl file for each user

To use a separate configuration file, **config.tbl**, for each user perform the following steps.

1. Identify a location on the **Client** machine for the configuration file. This can be any local drive and directory. (i.e. **C:\ANC**)
2. Place a copy of the “**config.tbl**” file in this directory.
3. Change the system variable named **CAMSYS** to point to the local directory where the new **CONFIG.TBL** file is located. (i.e. **CAMSYS = C:\ANC**)
4. Test the new configuration. You should not receive any error messages.
5. You should now be able to run the CIMpro Software from one of the **Client** machines.

## 3.4 Online Help

Complete context-sensitive online help is available once you have started CIMpro. You can refer to this help for any topics not covered in this tutorial.

**NOTE:** Also see the CAMDOC folder for a complete set of all the product manuals in PDF format for further reference.



## 4 CIMpro System Setup

### 4.1 CAMSYS System Environment Variable

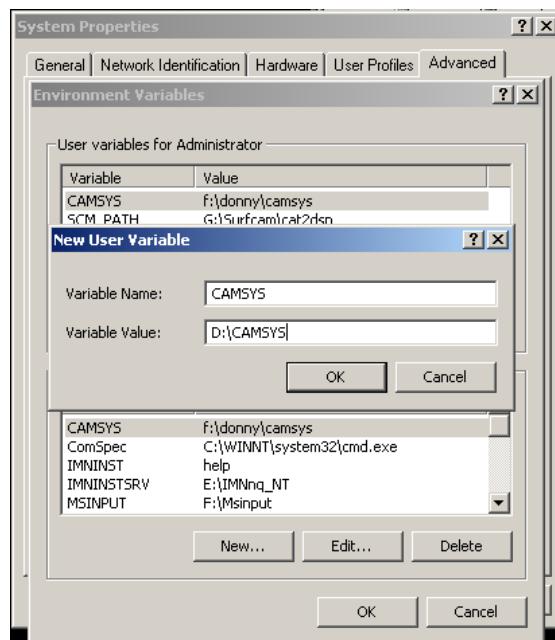
The **CAMSYS** system environment variable defines the directory where CIMpro looks to find the **config.tbl** file. In turn, the **config.tbl** file defines the system parameters for the complete CIMpro system (see the next section of this chapter for details on the **config.tbl** file).

The **CAMSYS** system environment variable must be defined before any of the CIMpro NC software systems can be used. This should be done automatically by the installation program. To manually define the **CAMSYS** system environment variable go to the proper section below for the Windows operating system you are using.

#### 4.1.1 Windows 7/8/10

To define system environment variables on this system, do as follows:

- From the **Start Menu**, select **Settings**
- From the **Settings Menu**, select **Control Panel**
- From the **Control Panel**, select **System**
- From the **System Properties** dialog, select the **Advanced** tab
- From the **Advanced** tab, select the **Environment Variables** button
- From the **Environment Variables** dialog, select the **New** button
- On the **Variable** line, type **CAMSYS**
- On the **Value** line, type the correct path to the **config.tbl** file (usually **C:\CAMSYS**)
- From the **New User Variable** dialog, click the **OK** button
- From the **Environment Variables** dialog, click the **OK** button
- From the **System Properties** dialog, click the **OK** button
- Reboot the system



## 4.2 CONFIG.TBL System Parameter File

The **config.tbl** file defines the system parameters for the complete CIMpro system. This file is an ASCII text file and can be modified with any text editor. When CIMpro is installed, the installation procedure automatically builds this file and places it in the **CAMSYS** directory. The following section describes each entry in the **config.tbl** file.

# is used to add comments to the file. The # must be in column one of the comment line. You cannot use comments at the end of a line.

**Example:**

```
# This is a valid comment  
UNC$SCRATCH=C:\CAMAPT\SC      # THIS IS NOT A VALID COMMENT
```

For long folder and blank pathnames for UNC\$variables instead of the actual path. Note: The variable (\*01etc.) must be the first 3-characters after the "=" in config.tbl entry. To use this add \*01,\*02..\*09 variable definitions within config.tbl file:

```
*01=C:\Documents and Settings\user account\my scratch  
*02=C:\Documents and Settings\user account\my posts
```

The use these variables to define the UNC\$variables:

```
UNC$SCRATCH=*01  
UNC$LIBRARY=*02
```

You can also make sub-folders without blanks to define UNC\$variables

```
UNC$SCRATCH=*01\sc\  
UNC$LIBRARY=*02\lib\
```

**UNC\$SYSTEM=path** This parameter is used to define the location of the system executables such as the APT system or G-Post. The **path** must have the trailing backslash (\).

**Example:**

```
UNC$SYSTEM=C:\CAMSYS\
```

**UNC\$LIBRARY=path** This parameter is used to define the location of the system library files such as the G-Post option and FIL files. When the system executables are looking for library files it will normally look in the current working directory first then look in the **UNC\$LIBRARY**. The **path** must have the trailing backslash (\).

**Example:**

```
UNC$LIBRARY=C:\CAMLIB\
```

**UNC\$SOURCE=path** This parameter is used to define the location of the program source files such as APT or CL files. This variable is obsolete and is still recognized for historical reasons. The **path** must have the trailing backslash (\).

**Example:**

**UNC\$SOURCE=C:\CAMAPT\**

**UNC\$SCRATCH=path** This parameter is used to define the location of the scratch files. The system writes temporary files to this directory and then deletes them at the end of each process. All users must have **READ**, **WRITE** and **DELETE** privileges to this location. It is NOT recommended that this directory be on a network drive, as a normal process will cause extensive traffic across the network. The **path** must have the trailing backslash (\).

**Example:**

**UNC\$SCRATCH=C:\CAMAPT\SC\**

**Special Usage:** It is also allowable to use an environment variable expansion for **UNC\$SCRATCH** in config.tbl file. Some IT-departments do not allow writing to local C: drive - other than the default area allocated by Windows as: **C:\Documents and Settings\user account\**

Since this folder name is too long and/or contains blanks, it does not work in config.tbl file.

**UNC\$SCRATCH=\*01\sc\** is allowed in configtbl where **\*01** is an environment variable that is defined as **C:\Documents and Settings\my account\** or any other folder name.

**Note:** **\*01** must be first 3-characters after the = in configtbl entry.

Make a subfolder **\sc** and define the **\*01** variable in My Computer/control panel/system/advanced/environment variable panel as shown below.

**\*01="C:\Documents and Settings\my account\"**

**UNC\$INCLUDE=path** This parameter is used to define the location of the files to be included, using the **INCLUD/** command, during a process. When the system executables are looking for **INCLUD/ files** it will look in the **UNC\$INCLUDE** directory unless a complete path is specified with the **INCLUD/** command. The **path** must have the trailing backslash (\).

**Example:**

**UNC\$INCLUDE=C:\CAMLIB\**

**UNC\$MACRO=path** This parameter is used to define the location of the pre-processed Macro files to be read, using the **READ/20** command or to be written using the **PUNCH/20** command, during a process. When the system executables are looking for **READ/20** or **PUNCH/20** files it will look in the **UNC\$MACRO** directory unless a complete path is specified with the **READ/20** or **PUNCH/20** command. The **path** must have the trailing backslash (\).

**Example:**

**UNC\$MACRO=C:\CAMAPT\MAC\**

## Getting Started with...CIMpro

**UNC\$CANON=path** This parameter is used to define the location of the pre-processed geometry files to be read, using the **READ/30** command or to be written using the **PUNCH/30** command, during a process. When the system executables are looking for **READ/30** or **PUNCH/30** files it will look in the **UNC\$CANON** directory unless a complete path is specified with the **READ/30** or **PUNCH/30** command. The **path** must have the trailing backslash (\).

**Example:**

**UNC\$CANON=C:\CAMAPT\CAN\**

**UNC\$CAMLIC=path** This parameter is used to define the location of the server license files. The **path** must be exactly **\CAMLIC\** and the server disk name must be the same as where **\CAMSYS\** is located. The **path** must have the trailing backslash (\).

**Note:** This parameter is only used when a Server License is present.

**Example:**

(In this example the **Server** disk is the **S:** drive.)

**UNC\$CAMLIC=S:\CAMLIC\**

**SECURITY=device (Obsolete)** This parameter is used to define the device which the hardware security lock is attached. This variable is obsolete and is still recognized for historical reasons.

**Example:**

**SECURITY=LPT1**

**SCRWTH=width (Obsolete)** This parameter is used to define the screen width for the **NCPLOT II** software. This variable is obsolete and is still recognized for historical reasons.

**Example:**

**SCRWTH=10.0**

**SCRWTH=height (Obsolete)** This parameter is used to define the screen height for the **NCPLOT II** software. This variable is obsolete and is still recognized for historical reasons.

**Example:**

**SCRHGT=6.75**

**END\_PROMPT=ON-OFF** CIMpro will display a **Completion** dialog at the end of any process. Setting **END\_PROMPT=ON** will enable the display of this dialog and you will be required to click the **OK** button to continue. Setting **END\_PROMPT=OFF** will disable the display of this dialog and the process will complete without notification.

**Example:**

**END\_PROMPT=ON**

**EDITOR=filename** CIMpro has several selections that invoke a text editor, this parameter defines the text editor to be used for editing files such as the input file (.APT), listing file (.LST), punch file (.PU1) etc. The **filename** must be the complete file name and path to the editor executable. The **filename** must be an executable a batch file will not work.

**Example:**

```
EDITOR=C:\WINNT\SYSTEM32\WRITE.EXE
```

**ACL\_OUTPUT=ON-OFF-LINEAR-LINEAR\_ARCDAT\_CONT** CIMpro will automatically create an **ASCII** Cutter Location (.ACL) file during the process without you having to specify the **MACHIN/UNCASC,1** command within your input program. **ON** enables this feature, **OFF** disables this feature. **LINEAR** enables this feature, just like **ON**, except without **ARCMOV** output, all arc moves will be iterated, this is the same as using the command **MACHIN/UNCASC,1,LINEAR** in your input program. **LINEAR\_ARCDAT\_CONT** will cause the circular records to be generated as they were with version 5.3 and earlier.

**Example:**

```
ACL_OUTPUT=ON
```

**APT\_EXT=ext** When selecting the input file for an APT process, **APT\_EXT** defines the default file filter used by CIMpro. **Ext** can be any file extension you desire and it does not require the decimal point or dot (.)

**Example:**

```
APT_EXTENSION=APT
```

**ACL\_GOTO=SINGLE-MULTIPLE** Specifies if **GOTO/** command in ACL file should be output with **SINGLE** or **MULTIPLE** xyz data. With the **MULTIPLE** option your custom post can detect an APT drive motion around a canted cylinder etc. in a **MULTAX** case. Use this option only if you are using custom post that reads an ACL file as input. For G-Post this option is not needed.

**Example:**

```
ACL_GOTO=SINGLE
```

**ACL\_ISN=ON-OFF** Specify if commands in ACL file should be output with APT-input (**ISN**) numbers by setting this option to **ON**, default is **OFF**. Use this option only if you are using custom post that reads ACL file as input. For G-Post this option is not needed.

**Example:**

```
ACL_ISN=OFF
```

## Getting Started with...CIMpro

**APT\_\$\$\_SEMI\_COLON=ON-OFF** When processing an APT program with **APTAC/ON**, a warning is automatically output for any APT input line that contains a semi-colon after \$\$ comment, such as **\$\$ CLEAR PART ; RETRCT**. **APT\_\$\$\_SEMI\_COLON=ON** considers this an error condition and will stop any further processing. **APT\_\$\$\_SEMI\_COLON=OFF** will generate a warning message and continue to process, this is the default condition.

**Example:**

**APT\_\$\$\_SEMI\_COLON=OFF**

**ACL\_MIN\_CUTTER\_HEIGHT=scalar** Specify the minimum cutter height to be output to the .ACL file for an APT **CUTTER/** command. This can be used to control the maximum cutter height for verification programs like NC PLOT3D or Vericut™. The **scalar** value must be specified in inches and the default is 5 inches.

**Example:**

**ACL\_MIN\_CUTTER\_HEIGHT=5.0**

**PASSWD=password** Specifies the password used by the CIMpro **System** button to control user access to CIMpro system settings. If no **PASSWD** is set, everyone has full access. If **PASSWD** is set, the user will be prompted to enter the password when trying to access these features.

**Example:**

**PASSWD=MANAGER**

**DISKLESS\_CLIENT=ON-OFF** When CIMpro is configured with a **Server License**, the **UNC\$SCRATCH** directory must be on the local users hard drive. Placing the **UNC\$SCRATCH** directory on a network server disk can cause a great amount of network traffic as CIMpro creates numerous temporary files that can be very large. If you are installing **diskless client** machines with a server license you must specify **DISKLESS\_CLIENT=ON** to allow the **UNC\$SCRATCH** directory to be defined across a network. This is **NOT** recommended. **DISKLESS\_CLIENT=OFF** is the default.

**Example:**

**DISKLESS\_CLIENT=OFF**

**MAX\_MACHINE\_NBR=99-9999** The Option File Generator is setup to allow only 99 post processors of each type to be created in any one directory. **MAX\_MACHINE\_NBR=9999** will allow the Option File Generator to use 4 digit post processor numbers allowing the maximum number of post processors in any one directory to be 9999. This parameter can only be set to 99 or 9999. **MAX\_MACHINE\_NBR=99** is the default.

**Example:**

**MAX\_MACHINE\_NBR=9999**

**FIL\_FILE\_WARN=scalar** The FIL editor, in the Option File Generator will take several seconds to open the FIL file if the file is rather large. This is because of the overhead required to do the color-coding. Setting this parameter will cause the Option File Generator to output a warning, prior to loading the FIL file, about this delay. This feature is just a simple message that informs you that everything is **OK**. It's just going to take a few seconds to load the file. Set the **scalar** to the number of lines allowed before outputting the warning message. This feature is turned off by default.

**Example:**

**FIL\_FILE\_WARN=4000**

**APT\_INCLUDE\_FINI=ON-OFF** This parameter tells the APT system to ignore **FINI** when it is encountered in a file that has been included (i.e. **INCLUDE/'filename'**) into the source program. This feature is turned off by default.

**Example:**

**APT\_INCLUDE\_FINI=ON**

**XPOST\_ERR\_PROMPT=ON-OFF** This parameter tells CIMpro to display a dialog box and prompt the user to **Press Any Key** when there is an **Error in Conversion** during the **UNCBNC** process. The **UNCBNC** process converts the input CL file into the binary CL file used by the G-Post. This feature is turned off by default.

**Example:**

**XPOST\_ERR\_PROMPT=ON**

**UNCMRG\_RSQ=ON-OFF** This parameter allows the merging post processor **wuncmrg.exe** to re-sequence the final punch file. This feature is turned on by default.

**Example:**

**UNCMRG\_RSQ=OFF**

**UNCMRG\_PUN=xxx-FROM\_PNN** This parameter allows the merging post processor **wuncmrg.exe** to rename the merged tape file to have the extension specified by **=xxx**. It will also delete all the temporary punch files with the extension PU1 through PU9. The second option "FROM\_PNN" will make the final merged punch file extension as defined in the first or starting option file. This will allow each merge post to have its own file type instead of **UNCMRG\_PUN=nc**, which would make all merge punch files to \*.nc. This feature is not enabled by default.

**Example:**

**UNCMRG\_PUN=TAP or UNCMRG\_PUN=FROM\_PNN**

**ACL\_ISN\_NCPLT3D=ON-OFF** NCPlot3d version 6.0 can display the input ACL line while plotting the tool motion in a small window. If you want the APT input line number (**ISN**) also to be shown, set this option to ON. The ACL file will contain a **REMARK** line as shown below before each **GOTO**/motion, so you can track back to APT source file.

**REMARK <NCPLT3D> ICL= 2725 ISN= 61 CLREC= 3097**

**Example:**

**ACL\_ISN\_NCPLT3D=ON**

**APT\_IMP\_QUOTE=ON-OFF** With **APTAC/ON**, a text line starting with a quote ('') can span across multiple lines. If the ending quote is missing, it will continue to collect next lines as part of the text string until a new line is found. You can turn off this **implied quote** option, by the new command **APT\_IMP\_QUOTE=ON/OFF**. This feature is turned on by default.

**Example:**

**APT\_IMP\_QUOTE=OFF**

**FORMAT\_LST\_FILE=ON-OFF** Specify is the LST file should be formatted automatically by converting the carriage control characters (**1,0,+/-**) into form feed, line feed for Windows printing. Set this option to **ON** only if you intend to print the LST file as it will require an extra file. The default is **OFF**.

**Example:**

**FORMAT\_LST\_FILE=ON**

**PW\_POST=ON-OFF** This parameter tells the system to run a custom post, non-G-Post, from a directory other than **CAMSYS** for testing proposes. The actual directory to be used is defined by an environment variable named **UNC\_POS** which is set in the Windows operating system. Environment Variable Example: [Name]=**UNC\_POS** [Value]=**C:\My\_Post**. This feature is turned off by default.

**Example:**

**PW\_POST=ON**

**APT\_PUNCH\_EXT=XXX** This parameter can be modified to specify which punch file extensions to use or display after an APT process. With any setting, \*.pu1, .pu2 etc. will always be displayed.

**Example:**

**APT\_PUNCH\_EXT = tap: Display files test.tap**

**APT\_PUNCH\_EXT = tap, mcd: Display files test.tap, test.mcd**

**APT\_PUNCH\_EXT = \*: Display test.\* all files**

### \*\*\* Special parameters for the CATIA interface \*\*\*

**CATIA\_CUTTER=OFF-ON-ONE** CATIA sometimes generates a seven (**7**) parameter cutter statement **CUTTER/d,r,e,f,a,b,h** that is not valid and may cause a failure in APT Section-2. The parameter **CATIA\_CUTTER=OFF** will output the original **CUTTER/data** as **TLSPEC** and then set the cutter parameters (**r,e,f,a,b**) to zero. This will allow you to add **CIMFIL/ON,TLSPEC** to your FIL file and get the original cutter information. You may also use the option **CATIA\_CUTTER=ONE** to set the cutter statement to “**CUTTER/1**”. The APT switch **CATIA/ON** must be used for this parameter to take effect.

**Example:**

```
CATIA_CUTTER=OFF
```

**NOTE: The following parameters need to be placed in the aptsource file or UNCAP17.STB file.**

**REMARK XAPT17 PPRINT-INSERT-REMARK\_CONTIN=ON** The **CATIA** aptsource file may contain **PPRINT**, **INSERT** and **REMARK** commands with a continuation character \$ in column-**72** to allow longer text strings. The **REMARK** commands below, when placed in one of these files, enables this option and the interface will make two **PPRINT/INSERT/REMARK** commands for this long input command.

```
REMARK XAPT17 PPRINT_CONTIN=ON
REMARK XAPT17 INSERT_CONTIN=ON
REMARK XAPT17 REMARK_CONTIN=ON
```

You can put this in the individual aptsource file or in the **uncap17.stb** file to apply for all aptsource files as a global option. The default setting is **OFF**, meaning \$ character is part of the text string.

**CATIA/ON** This command should be placed in the UNCAP17.STB file or the aptsource file to let the APT System know that the input file is from CATIA and not a native APT program.

**CATIA/ON**

**NOTE:** If you process your CATIA aptsource files directly through the APT System you may also place this command in the UNCAPT.INI file.

\*\*\* Special parameters for the Mastercam interface \*\*\*

**MASTERCAM\_TRANS=ON-OFF** The Mastercam-interface uses this option to generate **MULTAX** and **TRANS** commands with rotated axis planar machining. **ON** sets the interface to use the **CAMERA**, **MULTAX** and **TRANS** output (Default) and **OFF** sets the interface to use the **CAMERA** output only.

**Example:**

**MASTERCAM\_TRANS=OFF**

**MASTERCAM\_LOADTL\_LENGTH\_OUT=ON-OFF** For Mastercam-interface to enable the **LOADTL/-,LENGTH,z** to be output to the ACL file and thus the post. Previously the **LENGTH,z** couplet was always set to zero (0), this is still the default setting (**OFF**). This parameter will also output the correct length offset register value for the **ADJUST,h** couplet of the **LOADTL/cmd**.

**Example:**

**MASTERCAM\_LOADTL\_LENGTH=ON**

**MASTERCAM\_CIRCLE\_MAX\_RADIUS=n** For Mastercam-interface to set the default maximum radius for testing each circle move with a large radius and a very small angular displacement. If the programmed circle radius is greater than this value and the angular displacement is less than the minimum angle value a **GOTO** point will be generated to the end point of the arc and the circle will be ignored. The default value is **100**.

**Example:**

**MASTERCAM\_CIRCLE\_MAX\_RADIUS=100**

**MASTERCAM\_CIRCLE\_MIN\_RADIUS=n** For Mastercam-interface to set the default Minimum radius for testing each circle move. If the programmed circle radius is <= this value a **GOTO** point will be generated to the end point of the arc and the circle will be ignored. The default value is **.0005**.

**Example:**

**MASTERCAM\_CIRCLE\_MIN\_RADIUS=.0005**

**MASTERCAM\_CIRCLE\_MIN\_ANGLE=n** For Mastercam-interface to set the default minimum angular displacement (in degrees) for testing each circle move with a large radius and a very small angular displacement. If the programmed circle radius is greater than the maximum radius value and the angular displacement is less than the minimum angle value a **GOTO** point will be generated to the end point of the arc and the circle will be ignored. The default value is **.005**.

**Example:**

**MASTERCAM\_CIRCLE\_MIN\_ANGLE=.005**

**MASTERCAM\_REMARK\_1006=ON-OFF** NCI records 1006 are generated by the "Manual Entry" dialog inside Mastercam. The user can type a post command or message as <text> and it is output as a 1006 NCI record. Our interface converts it to a REMARK 1006 <text>, this is the default setting (**ON**). A new entry has been added to the config.tbl file to output the <text> as an ACL command (**OFF**), so no parsing is needed in FIL for the REMARK text line.

**Example:**

**MASTERCAM\_REMARK\_1006=OFF**

**NCI file record:**

1006  
LINTOL/ON

**Can be output as REMARK 1006 LINTOL/ON as before (ON) or LINTOL/ON as post command to the ACL file using the above option (OFF).**

**MASTERCAM\_VERSION7\_NCI=ON-OFF** For Mastercam Version-7, the cycle data in the NCI file is not same as Version-8 or higher. Add below line to your config.tbl to process Version-7 NCI files correctly in the interface. The default value is **OFF**.

**Example:**

**MASTERCAM\_VERSION7\_NCI=ON**

### \*\*\* Special parameters for the Unigraphics (UG-NX) interface \*\*\*

**SET\_CANTMP=LARGE** A very large Unigraphics (UG-NX) CLS file will not process the **CIRCLE/cmd** and fails in the APT macro processing. This is due to the temporary canon table limit. The command **SET\_CANTMP=LARGE** has been added to expand this table. The **Unigraphics-APT** interface, will automatically generate this command at the start of \*.xp8 file. This does not effect the standard **Unigraphics** interface.

**Example:**

**SET\_CANTMP=LARGE**

**UG\_HELIX\_CIRCLE=ON-OFF** For UG-interface, **CIRCLE/--,TIMES,n** command was added in **UG-NX2/3/4** versions. This is for thread milling to generate G-Post **ARCSLP/cmds**. This feature is turned off by default. If you are using your own macro **UNCMC8.MCR** then you may need to add the new check line **LQ4**, look at the default \*.X08 APT file created for changed macros.

**Example:**

**UG\_HELIX\_CIRCLE=ON**

**UG\_TLPATH\_REMARK=OFF** For the Unigraphics interface the **TOOL PATH** command in the CLS file is output as **REMARK** unless the command **MSYS/OUT** was found in the **VTB/STB** file. In that case, it was output as **PPRINT** instead of **REMARK**. Using this option, you can select **REMARK** or **PPRINT** as needed. Default for **Unigraphics-APT** interface is **OFF** to output **REMARK**. This option is not used for the **Unigraphics interface** and is always output as **REMARK**.

**Example:**

**UG\_TLPATH\_REMARK=OFF**

**UG\_TLDATA\_REMARK=ON-OFF** For the **Unigraphics interface** the **TLDATA** command in the CLS file can be output as **REMARK** or regular **TLDATA/--** using **ON/OFF**. Default for the **Unigraphics-APT** interface is **ON**. Default for the **Unigraphics interface** is **OFF**.

**Example:**

**UG\_TLDATA\_REMARK=ON**

**\*\*\* NOTE: The following is NOT a config.tbl parameter, it must be placed in the CLS file or uncas8.vtb,/uncas8.stb files.**

**REMARK XPOST8 CIRCLE=ON-OFF-ALL CIRCLE/cmds** in UG-CLS files can be converted to **ARCDAT/ARCMOV** or pass as a true **CIRCLE/cmd** to be processed by the G-Post.

**NOTE:** The option only applies to UG-CLS interface and not for UG-APT interface.

**REMARK XPOST8 CIRCLE=OFF**, If the circle is in the XY-plane, then output **ARCDAT** followed by normal **ARCMOV** to complete the circular motion. If the circle is in any other plane, then output **ARCDAT** followed by **GOTO** mid-point and then the ending **GOTO** circle point.

**REMARK XPOST8 CIRCLE=ON**, If the circle is in the XY,YZ or ZX -plane, then output **ARCDAT** followed by normal **ARCMOV** to complete the circular motion. If the circle is in any other plane, then output **ARCDAT** followed by **GOTO** mid-point and then the ending **GOTO** circle point.

**REMARK XPOST8 CIRCLE=ALL**, Output **CIRCLE/cmd** as is for any circle plane and do not output any **ARCDAT/ARCMOV** commands. This is the default with V63 version.

If your machine tool does not support circular mode G-codes (G2/G3), then only one chordal point would be output with **ON-OFF** option by the G-Post instead of a simulated linear for arc motion. So **ALL** is the preferred setting.

**Example:**

**REMARK XPOST8 CIRCLE =ALL**

**REMARK XPOST8 CIRCLE360=ON/OFF**

The interface has a new command, **REMARK XPOST8 CIRCLE360=ON/OFF** to detect null or undesired full 360 arc motion. To disable null arc test, use: **REMARK XPOST8 CIRCLE360=OFF**, this is the default

To enable null arc test, use: **REMARK XPOST8 CIRCLE360=ON**

You can optionally specify a tolerance to test the distance between the two **GOTO/points** to accept as null arc. The default is 0.00005. A maximum radius can be given as the 3<sup>rd</sup> value to skip a 360 degree circle.

**Example:**

**REMARK XPOST8 CIRCLE360=ON,0.0001,100**

In some cases, arc filtering programs can make null arc which is interpreted as a full 360-degree circle move by the interface as below:

```
GOTO/55.0125413,-1.9718691,1.3025000
GOTO/55.4107223,-1.9403961,1.0425000
CIRCLE/55.4107224,2.5403961,1.0425000,0.0000000,0.0000000,1.0000000,0.6000000,$
0.0500000,0.5000000,1.0000000,0.0000000
GOTO/55.4107224,-1.9403961,1.0425000
```

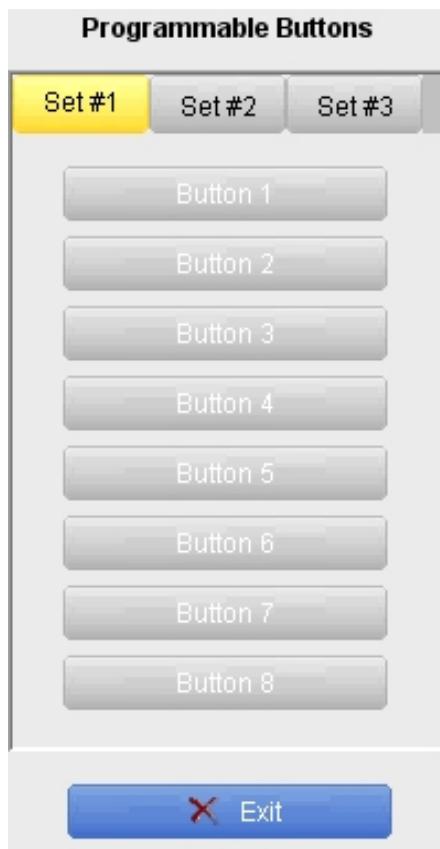
**Output: with CIRCLE360=ON - skip full 360 move at N22 G1**

```
N21 G1 X55.0125 Y-1.9719
N22 G1 X55.4107 Y-1.9404
```

**Output: with CIRCLE360=OFF - see full 360 move at N23 G2**

```
N21 G1X55.0125 Y-1.9719
N22 G1X55.4107 Y-1.9404
N23 G2X55.4107 Y-1.9404 I55.4107 J-2.5404
```

## 4.3 Configuring the Programmable Buttons

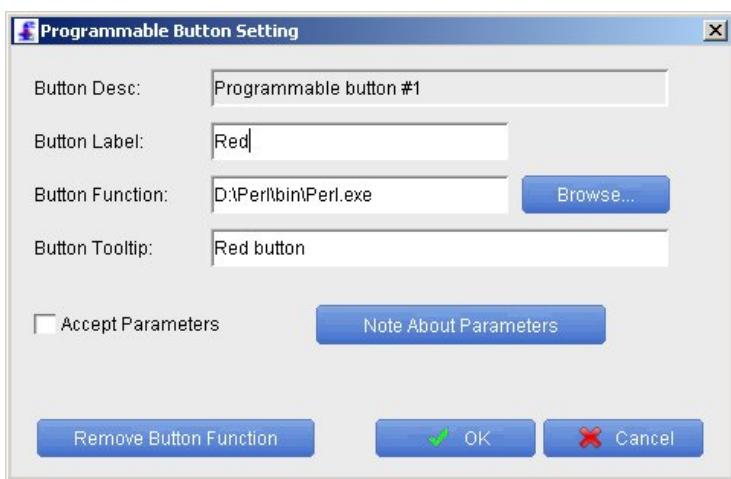


The following section details how to setup the programmable buttons on the **CIMpro – System Settings; Programmable Buttons** dialog. There are three sets of programmable buttons listed as **Set #1: Buttons #1 through #8**, **Set #2: Buttons #9 through #16** and **Set #3: Buttons #17 through #24**. These buttons are the only programmable buttons on the CIMpro **Graphical User Interface (GUI)**.

The **CIMpro - System Settings** dialog box:



The **Programmable Button Setting** dialog box:



This dialog box sets all the required parameters for each programmable button.

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These parameters define the function of the user-defined buttons. The user-defined buttons will then execute the specified program each time they are pressed. The program **filename** can be any executable program or **DOS** batch file.

### Example:

```
# Programmable button #1
USER_LBL_RED = Red
USER_PGM_RED = D:\Perl\bin\Perl.exe
USER_TXT_RED = The Red button
USER_PARAM_RED = 0
# The Red Button Label
# The program the Red Button will execute
# The Red Button tool tip
# Pass Parameter flag for the Red Button
```

**Note:** the first eight buttons use the old **color** scheme for identifying the buttons (e.g., RED, BLUE, etc.). With the addition of sixteen additional buttons, the programmable buttons are now numbered 1 through 24. To maintain compatibility with previous versions and currently defined user config.tbl files,, the first eight buttons will use labels as shown above, **USER\_LBL\_RED**. Starting with button #9, the label will be: **USER\_LBL\_#** (where # is the number of the button).

### Example:

```
# Programmable button #1
USER_LBL_RED = Application 1

# Programmable button #9
USER_LBL_9 = Application 9
```

Each button may have its own unique label, the **USER\_LBL\_XXX = TEXT** parameter is used to define this.

The **USER\_PGM\_XXX = C:\...** parameter is the drive letter, path and complete program name of the program that will be executed when this button is pressed.

The **USER\_TXT\_XXX = TEXT** parameter sets the tool tip **TEXT** that is displayed when you move the cursor over the button. The tool tip can be any text string and is optional.

The **USER\_PARAM\_XXX = 0 or 1** parameter instructs CIMpro to *not pass/pass* the six parameters to the executing program. There are six parameters that may be passed to the program being executed. Each button can be defined to *not pass/pass* these parameters when the button is pressed. The following is a list of the parameters in the order they will be passed to the program:

1. the full path and file name
2. the full path
3. the file name, without the extension
4. the file name extension
5. the post processor name
6. the post processor number

## 5 CIMpro License Setup

### 5.1 License Setup (Windows Platforms)

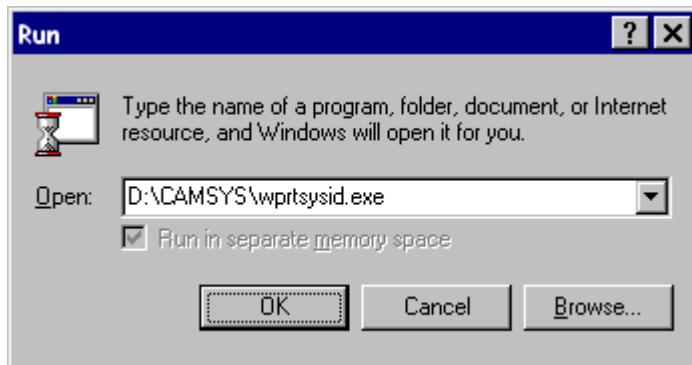
CIMpro is available with two types of licenses, a **Node License** and a **Server License**. Each software module checks for a valid license prior to executing. If a valid license does not exist a **License Error** dialog will be displayed and the software will terminate. To obtain information about the current license or to obtain the information required to request a software license you must run the supplied license program, **wprtsysid.exe**. This program resides in the **UNC\$SYSTEM** (i.e. **C:\CAMSYS**) directory on your system or can be downloaded from the **Support** section of our web site, [www.austinnc.com](http://www.austinnc.com).

A special license for software evaluation may be granted and will be discussed later in this section. The following sections describe how to verify, install, and acquire a software license.

#### 5.1.1 Verify the License

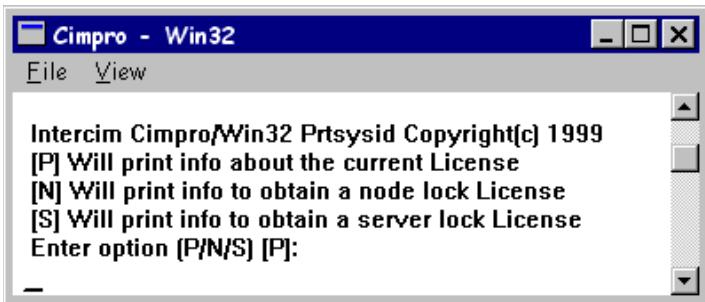
Once the CIMpro software is installed, you can use the license program, **wprtsysid.exe** to test the current software license installed.

From the **Start** menu, select **Run** and either use **Browse** or enter the license program filename to execute: **C:\CAMSYS\wprtsysid.exe**. The path **C:\CAMSYS** may be different on your installation. Select **OK** to run the program.

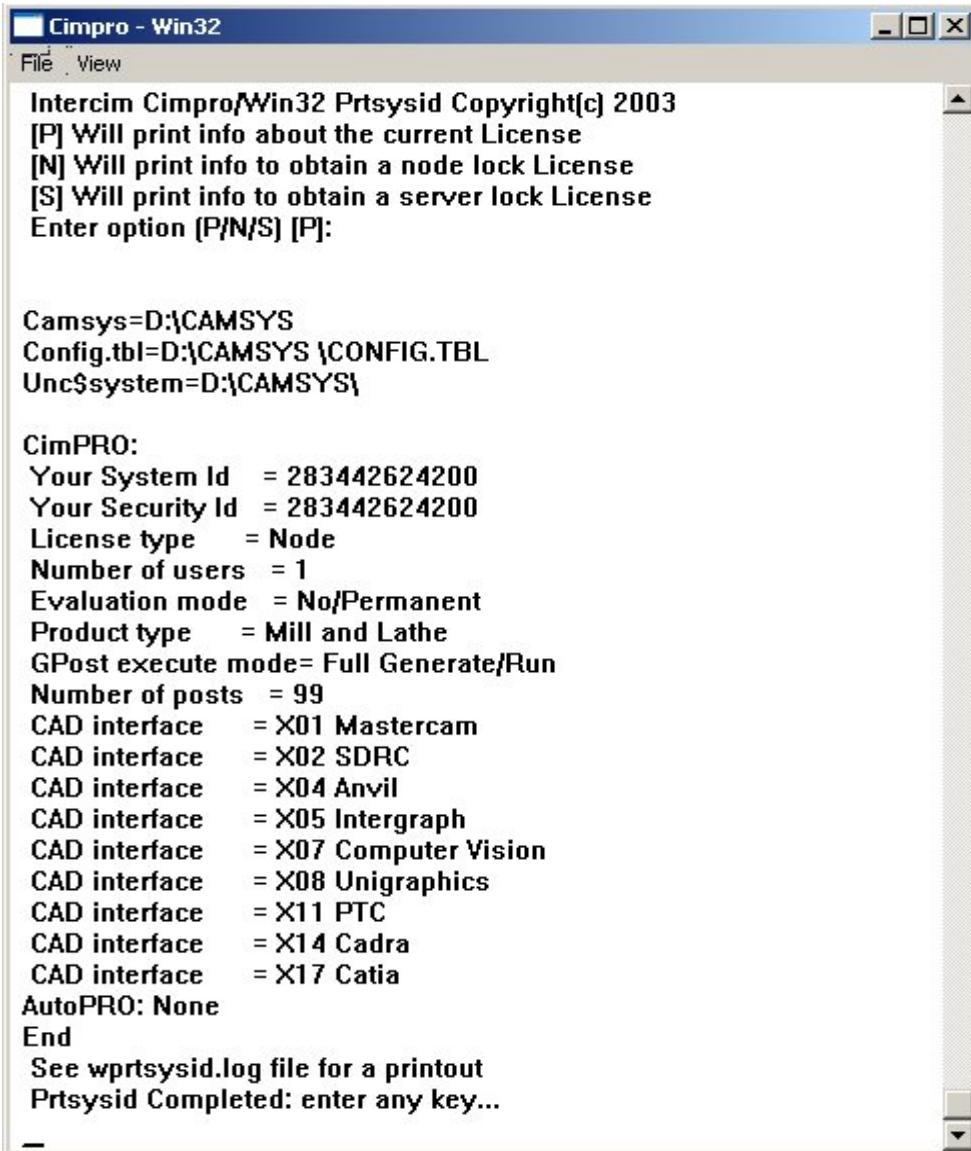


**wprtsysid.exe** will display its initial dialog.

## Getting Started with...CIMpro



Enter **P** to print the current license information.



This information will give you everything required to evaluate the current software license and proper installation setup.

The 1<sup>st</sup> three lines give you information about your installation and setup. Line one shows the current definition of the **CAMSYS** system variable (see **System Setup** chapter). Line two shows the **config.tbl** (see **System Setup** chapter) file being used to define the system. Line 3 shows the current definition of **UNC\$SYSTEM** (see **System Setup** chapter), which defines where the actual system executables and software license file is located. After the 1<sup>st</sup> three lines comes the actual information about the software licenses found. There is a section for each of our software suites.

### 5.1.1.1 License Information:

⇒ Your system id = xxxxxxxxxxxx

This is the **ID** read from your system. This ID will change if you upgrade your system and/or the physical hard drive the software is installed on. Any time this ID changes, for whatever reason, you will be required to get a new software license file.

⇒ Your security id = xxxxxxxxxxxx

After we receive **Your system id** we will create a software license file based on that id. **Your security id** must match **Your system id** for the software to execute. If **Your system id** and **Your security id** do not match, you must follow the instruction in the section **Acquiring a License**. A special training license is available. This license will allow the use of the software for a period of time not to exceed 30 days. This license will have a **Your security id** of 51245811211.

⇒ License type = Node-Server

We offer two types of software licenses, a **Node Lock** and a **Server Lock**. A **Node Lock** license is a single user license, locked to the machine matching **Your system id**. A **Server Lock** license is a multiple user license and is locked to **Your system id** of the server machine. The **Server Lock** license also has a maximum number of users allowed. Each time a user starts CIMpro a license is checked out and when CIMpro is closed the license is checked back in.

⇒ Number of Users = xxx

Defines the allowed number of users. A **Node Lock** license will always be 1.

⇒ Evaluation Mode = No/Permanent-Yes

A fully functional evaluation license may be granted. **No/Permanent** is a purchased, non-expiring license. **Yes** is a license that will terminate when the granted number of days has expired.

⇒ Number of days

If **Evaluation Mode** is **YES**, the **Number of days** specifies when the license will expire. If **Evaluation Mode** is **No/Permanent** the number of days will be 365 and the license will **never** expire.

⇒ Product type

This specifies which products are covered by this license.

⇒ G-Post execute mode

The G-Post is licensed either as a complete package, **Full Generate/Run**, which means you can create and modify G-Post and then process programs using the G-Post or as a run time package, **Run Time Only**, which means you only have the ability to process programs using G-Post, you cannot generate post processors.

## Getting Started with...CIMpro

### ⇒ Number of posts

For a license using **G-Post execute mode = Full Generate/Run** this number will always be set to 99.

For a license using **G-Post execute mode = Run Time Only** this number is the maximum number of G-Post that can run with this license.

### ⇒ CAD Interface

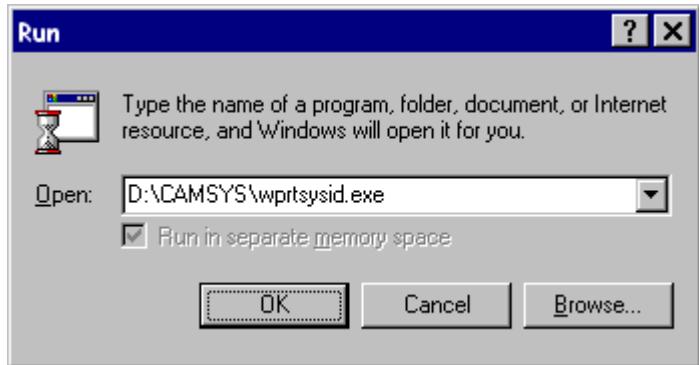
**CAD/CAM interfaces** are available for numerous CAD/CAM CL file conversions. Each **CAD/CAM Interface** license you have purchased will be listed.

The program **wprtsysid.exe** creates a **wprtsysid.log** file containing this data. The log file is created in the same directory as the executable file. You can attach this file to an Email or FAX it to Austin N.C., Inc. to obtain a software license.

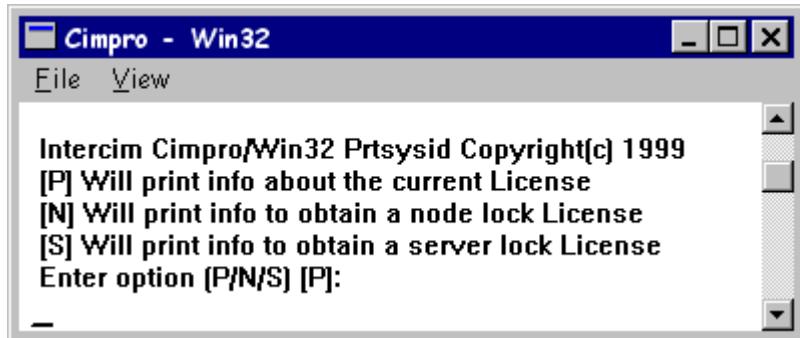
### 5.1.1.2 Acquiring a License

To acquire a new or updated license you will need to run the license program, **wprtsysid.exe** to obtain the information needed and then Email or FAX the information to Austin N.C., Inc.. Austin N.C., Inc. will then create the required license file.

From the **Start** menu, select **Run** and either use **Browse** or enter the license program filename to execute: **C:\CAMSYS\wprtsysid.exe**. The path **C:\CAMSYS** may be different on your installation. Select **OK** to run the program.

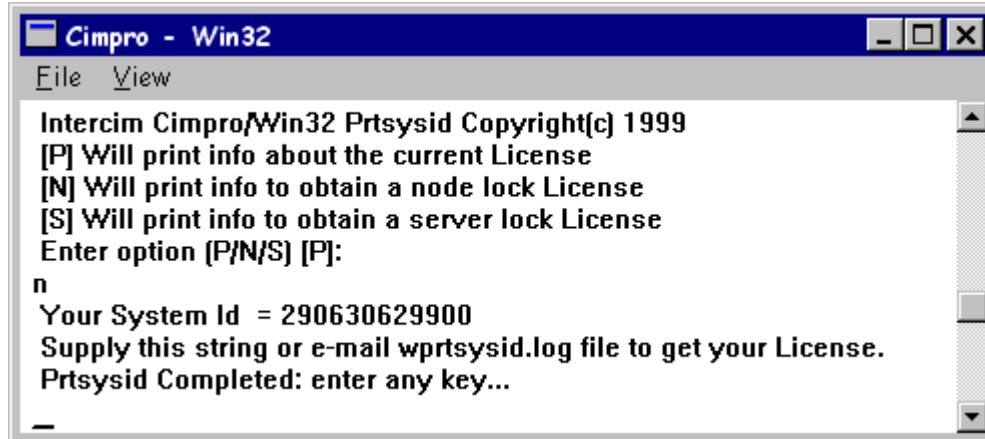


**wprtsysid.exe** will display its initial dialog.



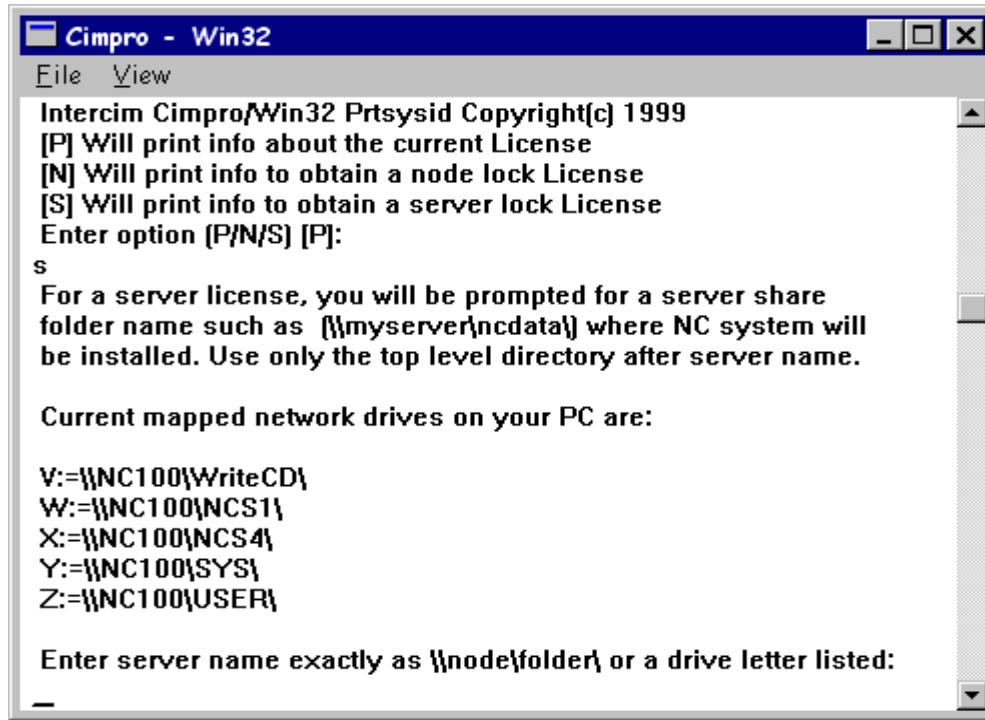
There are two types of licenses. Enter **N**, for a **Node Lock** license or **S**, for a **Server Lock** license.

## Node Lock License



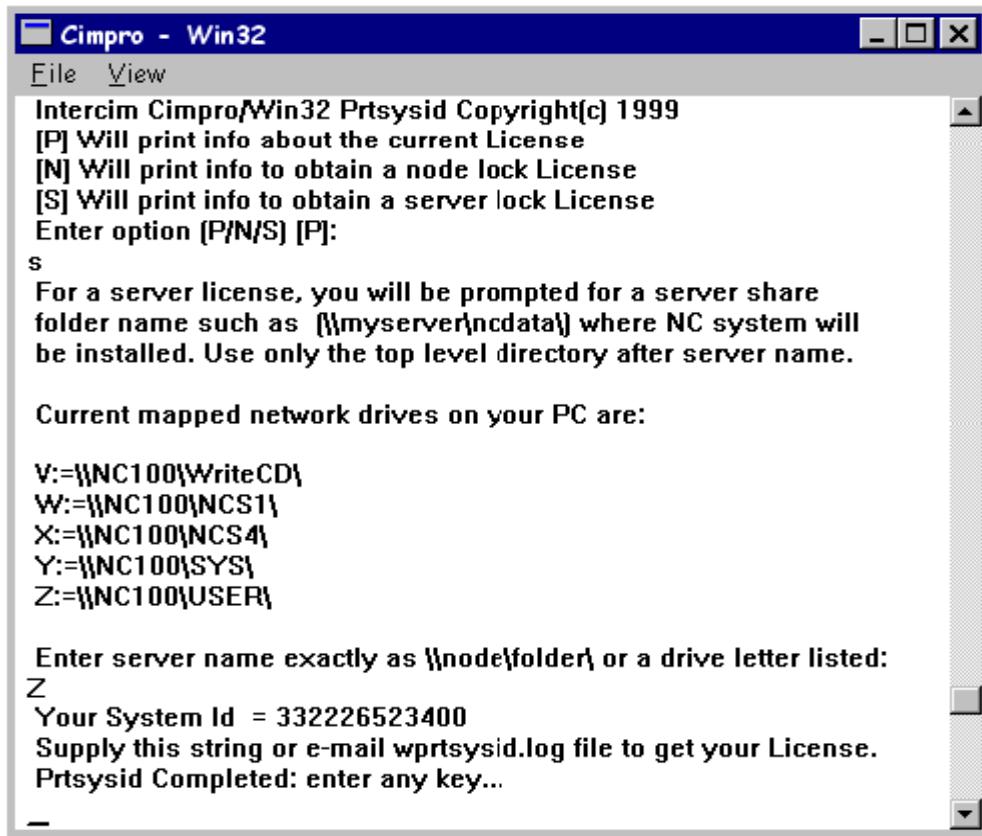
Entering **N** will display **Your system id**. The **wprtsysid.exe** program creates a **wprtsysid.log** file containing this information. This file can be attached to an Email or printed and Faxed to Austin N.C., Inc.. Austin N.C., Inc. will create the license file.

## Server Lock License



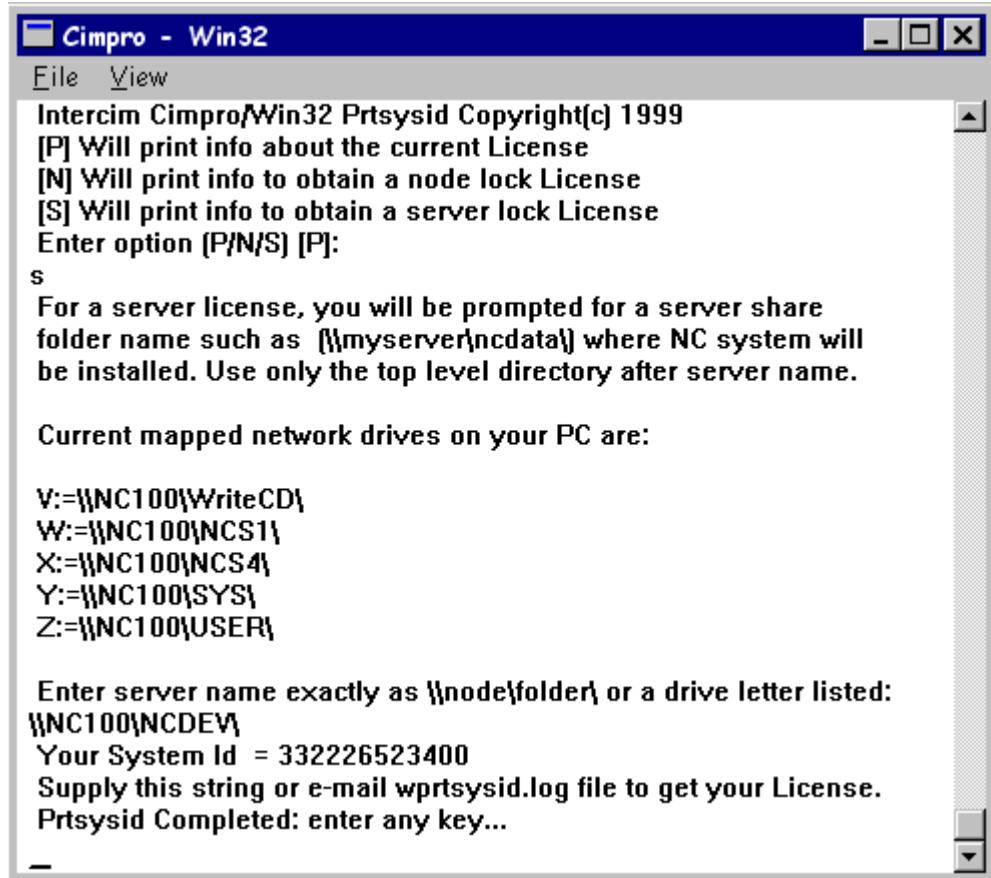
Entering **S** will display the current mapped network drives on your system. You must enter the desired **Mapped Drive (Z:)** or the exact **Server share folder name** (i.e. **\NC100\AUSTINNC**).

### Mapped Drive



Entering the **Mapped Drive (Z:)** will display **Your system id**. The program **wprtsysid.exe** creates a **wprtsysid.log** file containing this information. This file can be attached to an Email or printed and Faxed to Austin N.C., Inc.. We will create the license file and deliver it to you.

### Shared Folder Name



Entering the **Server share folder name** (**\\NC100\\NCDEV\\**) will display **Your system id**. The program **wprtsysid.exe** creates a **wprtsysid.log** file containing this information. This file can be attached to an Email or printed and Faxed to Austin N.C., Inc. We will create the requested license file and return it to you.

#### 5.1.1.3 Installing a License

Once you receive this license file it must be placed in the **UNC\$SYSTEM** directory. The CIMpro license file is named **CPROLPT1.TXT**. If this file already exists in **UNC\$SYSTEM** it must be overwritten. It is always a good idea to save a backup copy of your license file **CPROLPT1.TXT**.

After the license file is installed you should run **wprtsysid.exe**, per the **Verifying a License** section of this document, to verify the current license.

## 5.2 Server License Reset (Windows Platforms)

The Server version of the CIMpro license has a fixed number of concurrent users based on the number you purchased, the Server license comes standard with one (1) concurrent user. A license is checked out each time a user starts CIMpro or the Option File Generator. It is checked back in only when the application is closed normally. If the application is terminated abnormally or if the PC is shutdown with the application running, the license does not get checked back into the license utility. The file, located in the **CAMLIC** folder on the server, named **CPROLPT1.LOG** contains a list that shows when a given PC has checked out a license and/or checked it back in. The figure below shows the contents of a typical LOG file:

```
Log file for CimPRO/Server License : CPROLPT1.LOG
Each line contains (UserID,Start,End)

BEGIN LIC NUM= 1 CLASS1          286015099000 09-20-2018 08:05:44
BEGIN LIC NUM= 2 9DPCN12         174278464100 09-20-2018 08:16:55
BEGIN LIC NUM= 3 CLASS2          111495009700 09-20-2018 08:31:01
END LIC NUM= 2 9DPCN12          174278464100 09-20-2018 17:05:41
END LIC NUM= 3 CLASS2          111495009700 09-20-2018 17:11:57
BEGIN LIC NUM= 2 9DPCN12          174278464100 09-21-2018 08:06:24
BEGIN LIC NUM= 3 CLASS2          111495009700 09-21-2018 08:09:21
END LIC NUM= 1 CLASS1          286015099000 09-21-2018 11:41:40
END LIC NUM= 2 9DPCN12          174278464100 09-21-2018 11:56:40
END LIC NUM= 3 CLASS2          111495009700 09-21-2018 12:00:31
```

The line labeled **BEGIN** is a license being checked out and **END** that it has been checked back in. The **NUM =** indicated the concurrent user number and the name after that is the Computer Name followed by the System ID and Date/Time.

**License Count Exceeded** error message will be output if you exceed the purchased number or when licenses are not properly checked back as mentioned above. In this case, you need to reset the license count using the following steps:

1. Ensure all users have are not using the CIMpro and/or the Option File Generator.
2. Delete the files **CPROLPT1.BIN** and **CPROLPT1.LOG** from the **.\\CAMLIC** folder.
3. Copy the original files **CPROLPT1.BIN** and **CPROLPT1.LOG** from the **.\\CAMLIC\\CM** sub-folder back to the **.\\CAMLIC** folder.
4. The user can now launch CIMpro and/or The Option File Generator.

**NOTE:** The **.\\CAMLIC** and **.\\CAMLIC\\CM** folders are on the Server mapped drive used for CIMpro. The **A** will be the drive letter and : **Example: S:\\CAMLIC**

## 6 CIMpro Tutorial

### 6.1 What is CIMpro?

CIMpro is a **Graphical User Interface (GUI)** for the Austin N.C., Inc. suite of NC programming products. The purpose of CIMpro is to assist you in creating G-Post post processors, editing, processing and verifying APT programs and editing, processing and verifying CAD/CAM CL files.

### 6.2 Tutorial - Overview

The tutorial will take you through the CIMpro **GUI**:

- ⇒ APT Process - Creating, Editing and Processing an APT part program.
- ⇒ G-Post Process - Editing and Processing a CAD/CAM CL file.
- ⇒ Option File Generator - Creating a G-Post
- ⇒ Verifying the tool paths

### 6.3 Tutorial - Starting the CIMpro GUI

#### 6.3.1 Windows:

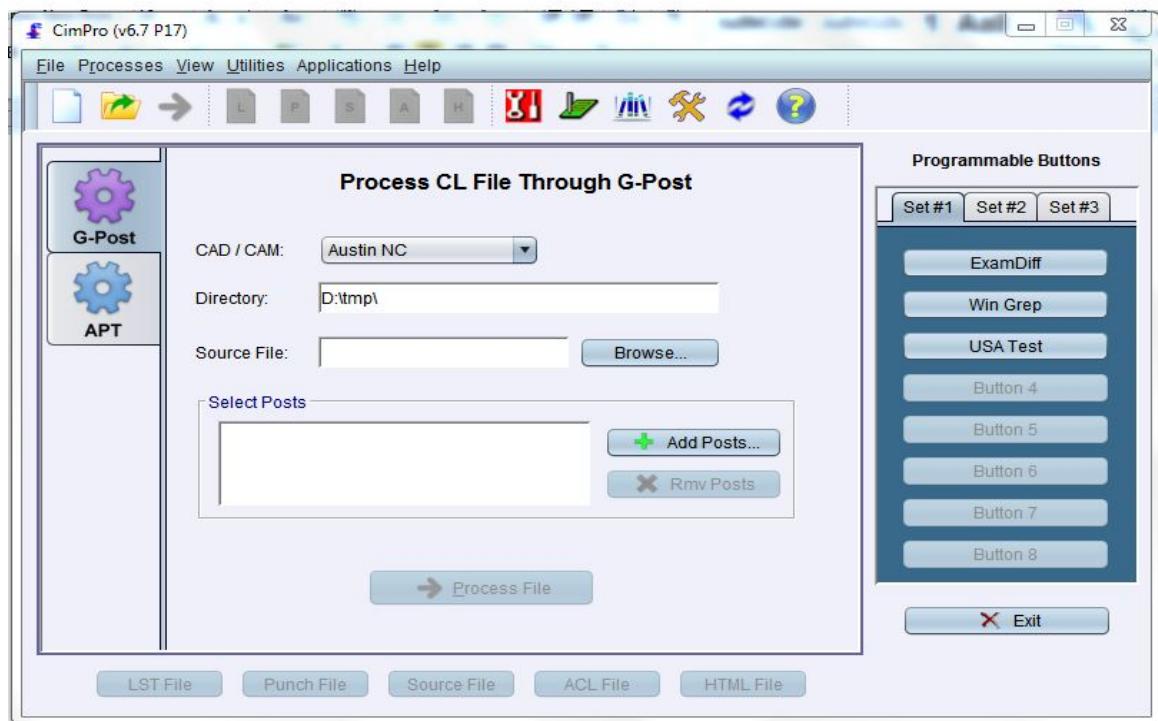
To start CIMpro; use the desktop icon created by the installation program, launch the CIMpro shortcut in the Austin N.C., Inc. program directory or run **jcimpro.exe** from the **Start -> Run** menu. The program file **jcimpro.exe** is in the **UNC\$SYSTEM** directory. The CIMpro **GUI** will appear.

**Desktop Icon:**



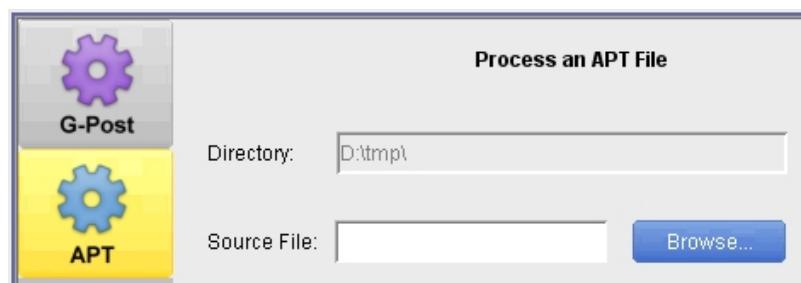
## Getting Started with...CIMpro

### CIMpro GUI:

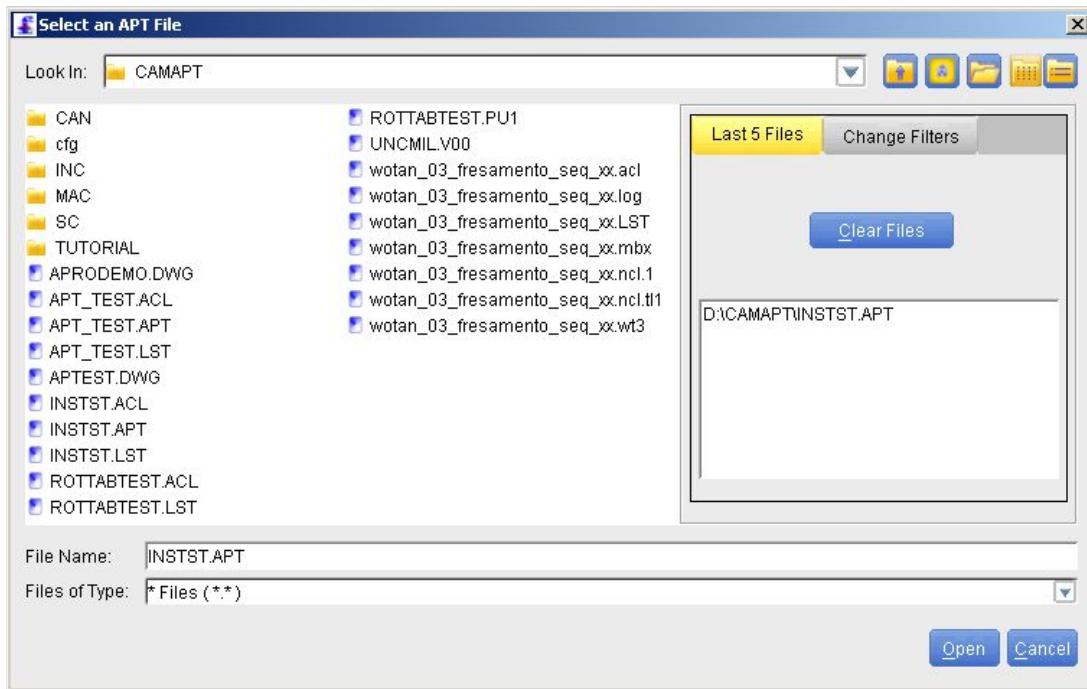


## 6.4 Tutorial - APT Process

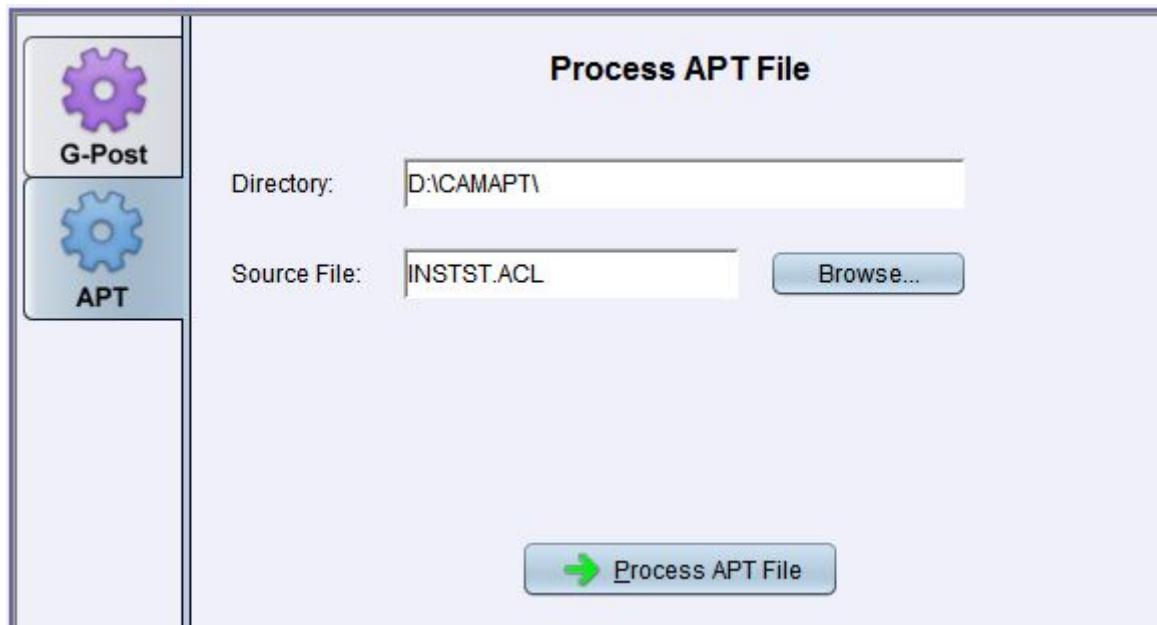
To begin an APT process you start by clicking on the **APT** tab. Then you must select the APT program you wish to process. Click the **Browse...** button to open the file browser.



Select the desired APT file from the browser then click the **Open** button.

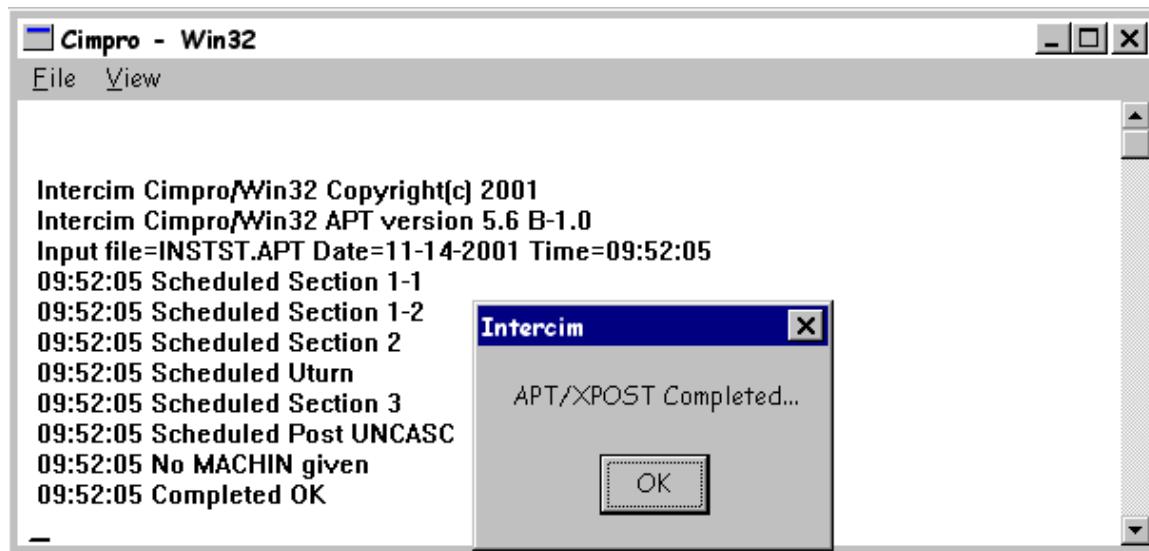


Process the selected APT file by selecting the **Process APT File** Button.



## Getting Started with...CIMpro

The CIMpro processing window will appear and you will be notified when the process has completed. Select **OK**



Once the APT process has completed you can use the file editor buttons



or icons

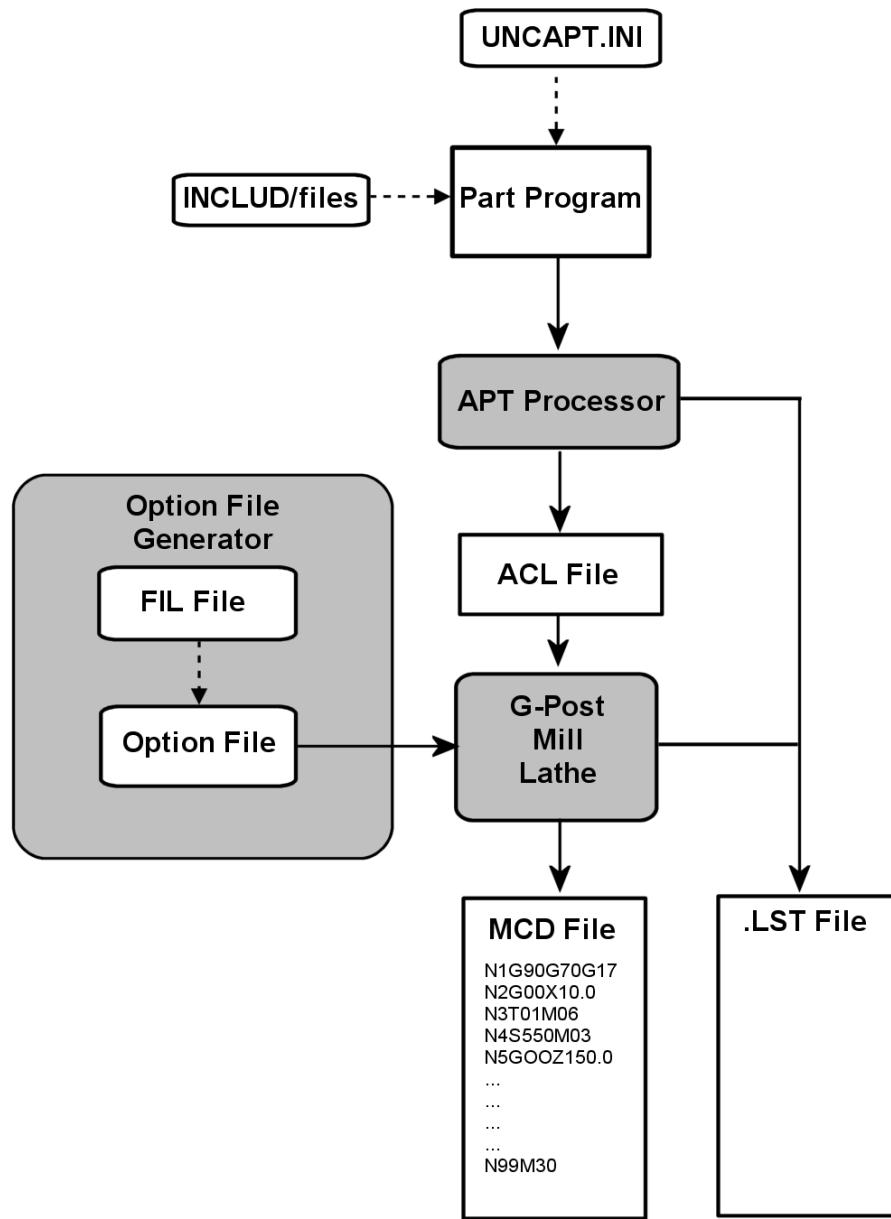


to edit or view the **LST File**, **Punch File**, **Source File** **ACL File** or **HTML File**. Selecting one of these buttons will start the default editor with the desired file.

### 6.4.1 The APT Process

At the beginning of an APT process, CIMpro tries to automatically include a file named **UNCAPT.INI**. CIMpro tries to locate this file in the local working directory first, then looks in the **UNC\$LIBRARY** directory. If the file is not located, it is not used. Once the APT process completes, it automatically runs the resulting ACL file through the post processor specified by the **MACHIN/...** statement. The following is a flow chart of an APT process.

## The APT Process



CimPRO NC System Software

----&gt; Option included files

## Getting Started with...CIMpro

Each time an APT source file is processed through the APT processor and post processor the following files are created.

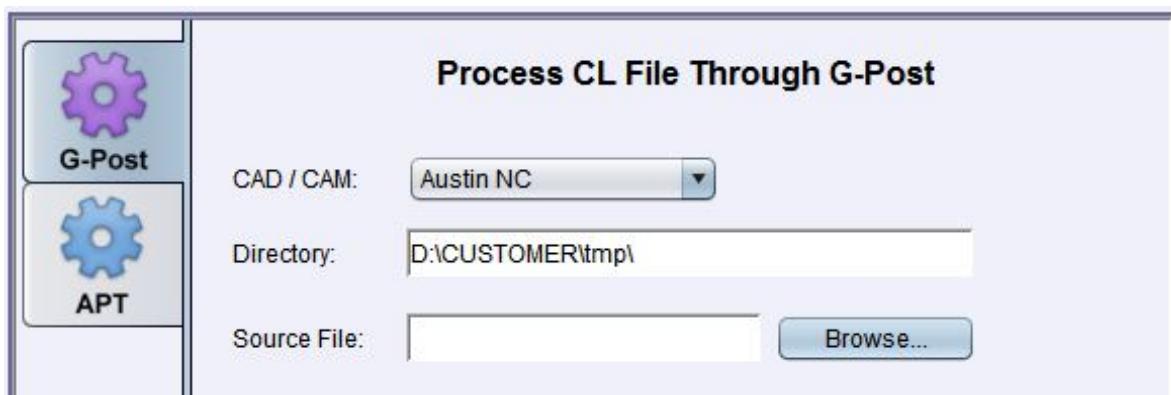
- The listing file (**.LST**) contains data relevant to the process. Error and warning messages are listed in this file.
- The punch file (**.PU1**) is the final Machine Control Data (**MCD**) file. This file contains the actual G-Code information created by the post processor to be sent to the machine tool.
- The ACL file is an **ASCII** Cutter Location file that is created by the APT system and is then read by the post processor and used to create the punch file (**.PU1**).
- The HTML file is **Optional** and its contents are defined by the settings in your post processor **Option File**. It will be opened in your default HTML browser and contain the data along with a frame of links to this data.

## 6.5 Tutorial - G-Post Process

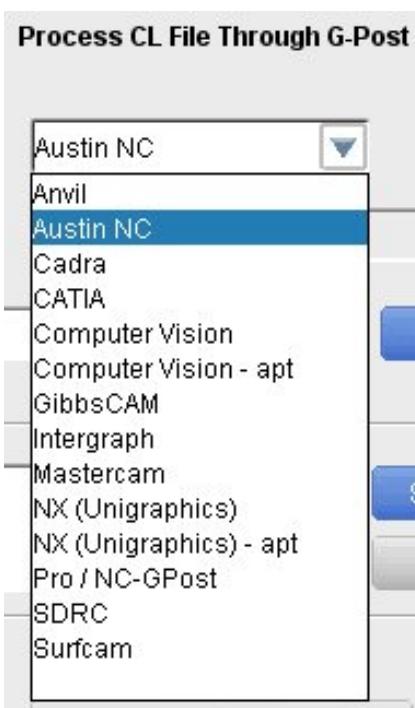
The G-Post process is used to post process CAD/CAM CL (Cutter Location) files through G-Post. Before a CAD/CAM CL files can be post processed it must be converted from its unique format into the ACL format defined by Austin N.C., Inc. This unique format is required as input for G-Post. Special **CAM/CAM interfaces** have been created by Austin N.C., Inc. for this purpose. The following is a list of available **CAD/CAM interfaces**:

- **Anvil**
- **Austin NC**
- **Cadra**
- **CATIA**
- **Computer Vision & NiCAM**
- **Computer Vision – APT**
- **GibbsCAM (Intergraph)**
- **Mastercam**
- **NX (Unigraphics)**
- **NX (Unigraphics) - APT**
- **PTC / NC G-Post & CV NC**
- **SDRC**
- **Surfcam**

To process a CL File though a specific G-Post, click on the **G-Post** tab. You must then select the desired **CAD/CAM Type** and the CL file (**Source File**) you wish to process.

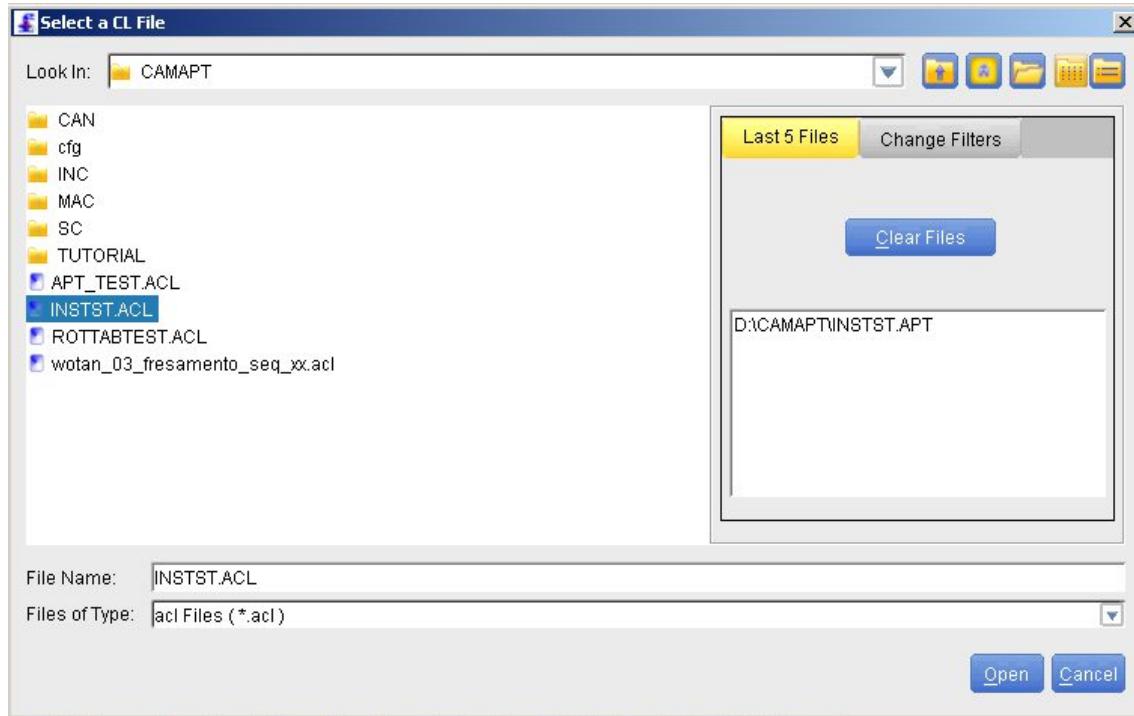


From the **Process CL file Through G-Post** screen, **CAD/CAM Type** box, click on the pull-down arrow and select the desired **CAD/CAM Interface**.



## Getting Started with...CIMpro

From the **Process CL file Through G-Post** screen, click on the **Browse...** button and select the desired CL file from the browser. Then click the **Open** button.

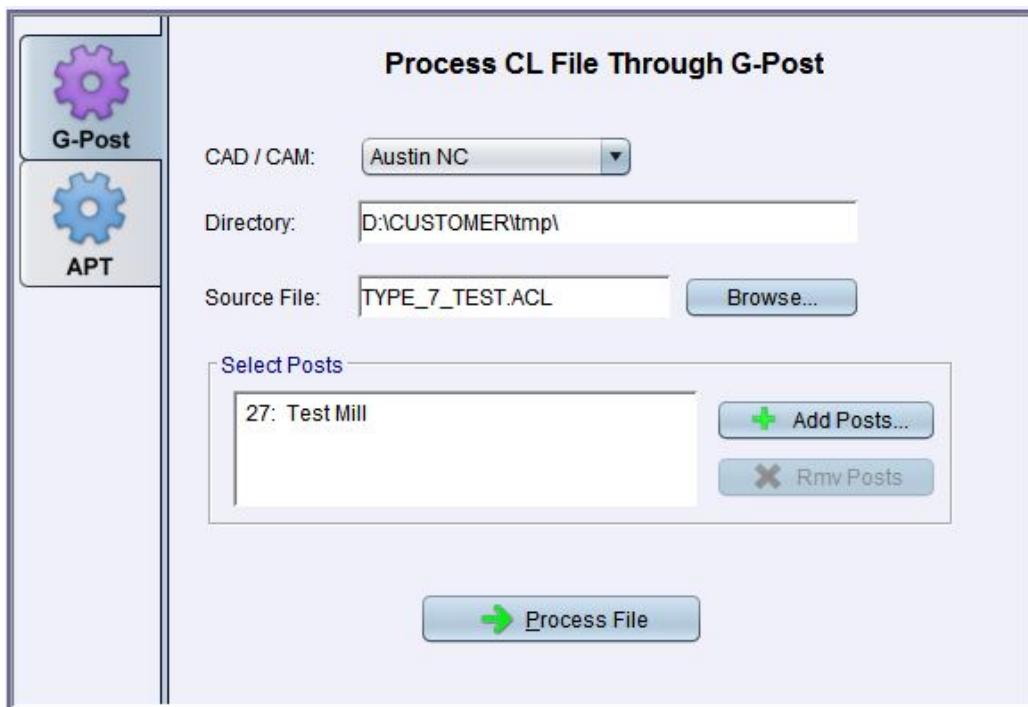


From the **Process CL file Through G-Post** screen, click on the **Specify Posts...** button. Select the desired post and use the **Right Arrow** button to move it into the **Selected Post** window.

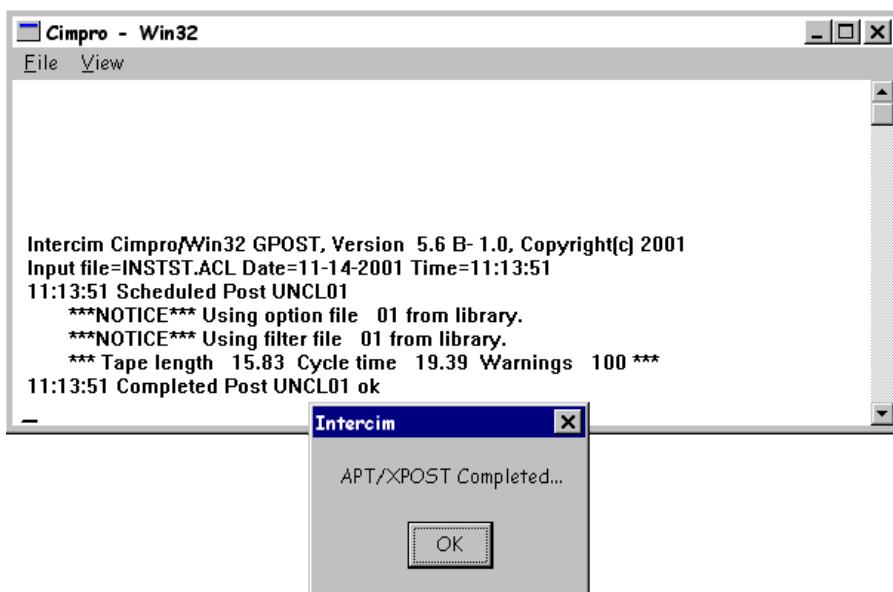


Select the **OK** button when you have finished selecting the post.

To process the selected CL file through the selected G-Post, press the **Process File** button.



The CIMpro processing window will appear. You will be notified when the process has completed. Select **OK**.



## Getting Started with...CIMpro

Once the G-Post process has completed you can use the file editor buttons



or icons



to edit or view the **LST File**, **Punch File**, **Source File** **ACL File** or **HTML File**. Selecting one of these buttons will start the default editor with the desired file.

### 6.5.1 The G-Post Process

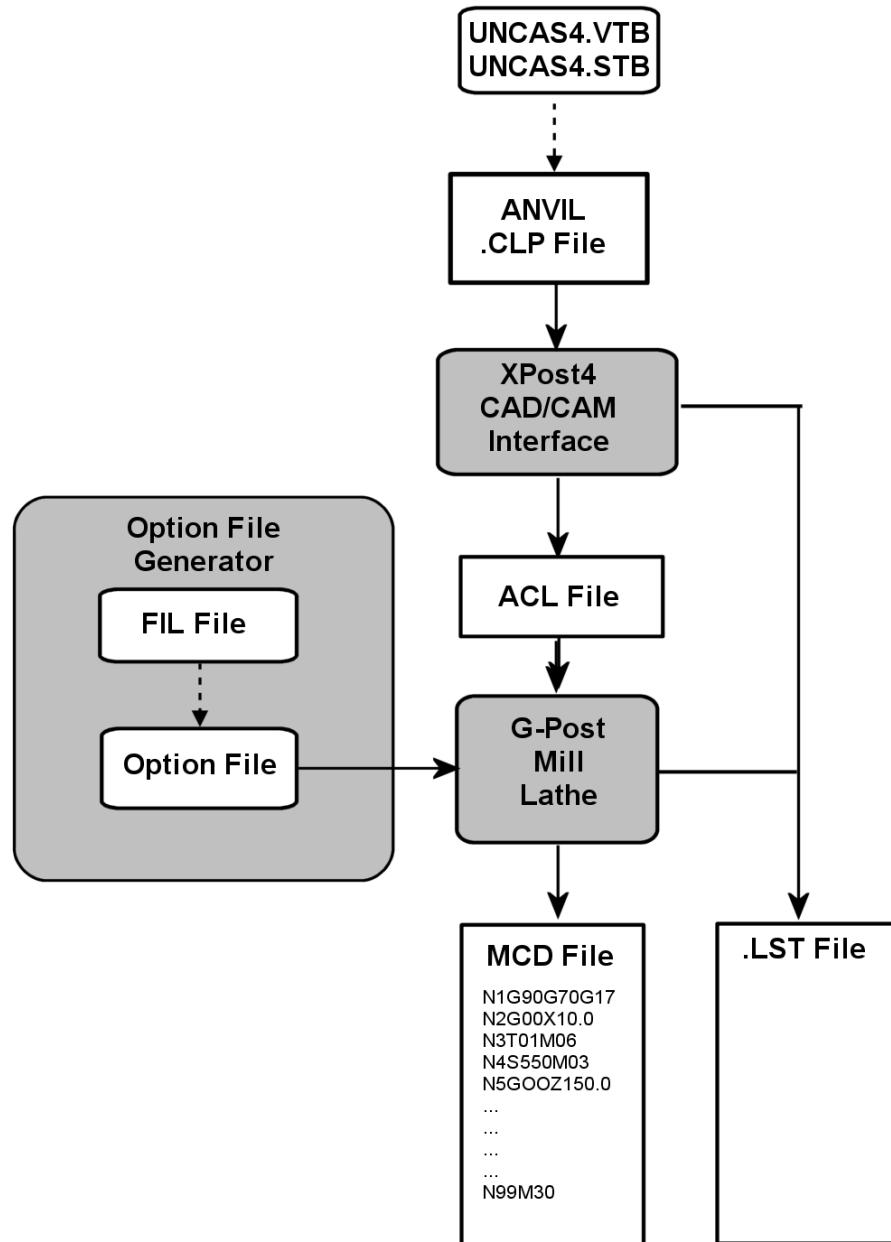
During the CL file conversion phase, and depending on which **CAD/CAM interface** is being used, CIMpro tries to automatically include a vocabulary table file (.VTB) and a Startup file (.STB) to the beginning of the .ACL file. CIMpro tries to locate these files in the local working directory first, then looks in the **UNC\$LIBRARY** directory. If these files are not located, they are not used. Once the CAD/CAM CL file conversion process completes, it automatically runs the resulting ACL file through the specified post processor.

Each time a CAD/CAM CL file is processed through the G-Post processor the following files are created.

- The listing file (**LST**) contains data relevant to the process. Error and warning messages are listed in this file.
- The punch file (**PU1**) is the final Machine Control Data (**MCD**) file. This file contains the actual G-Code information created by the post processor to be sent to the machine tool.
- The ACL file is an **ASCII** Cutter Location file that is created by the APT system and is then read by the post processor and used to create the punch file (**PU1**).
- The HTML file is **Optional** and its contents are defined by the settings in your post processor **Option File**. It will be opened in your default HTML browser and contain the data along with a frame of links to this data.

The following are flow charts for the G-Post process that each of the **CAD/CAM interfaces** use:

## CAD/CAM Interface - ANVIL

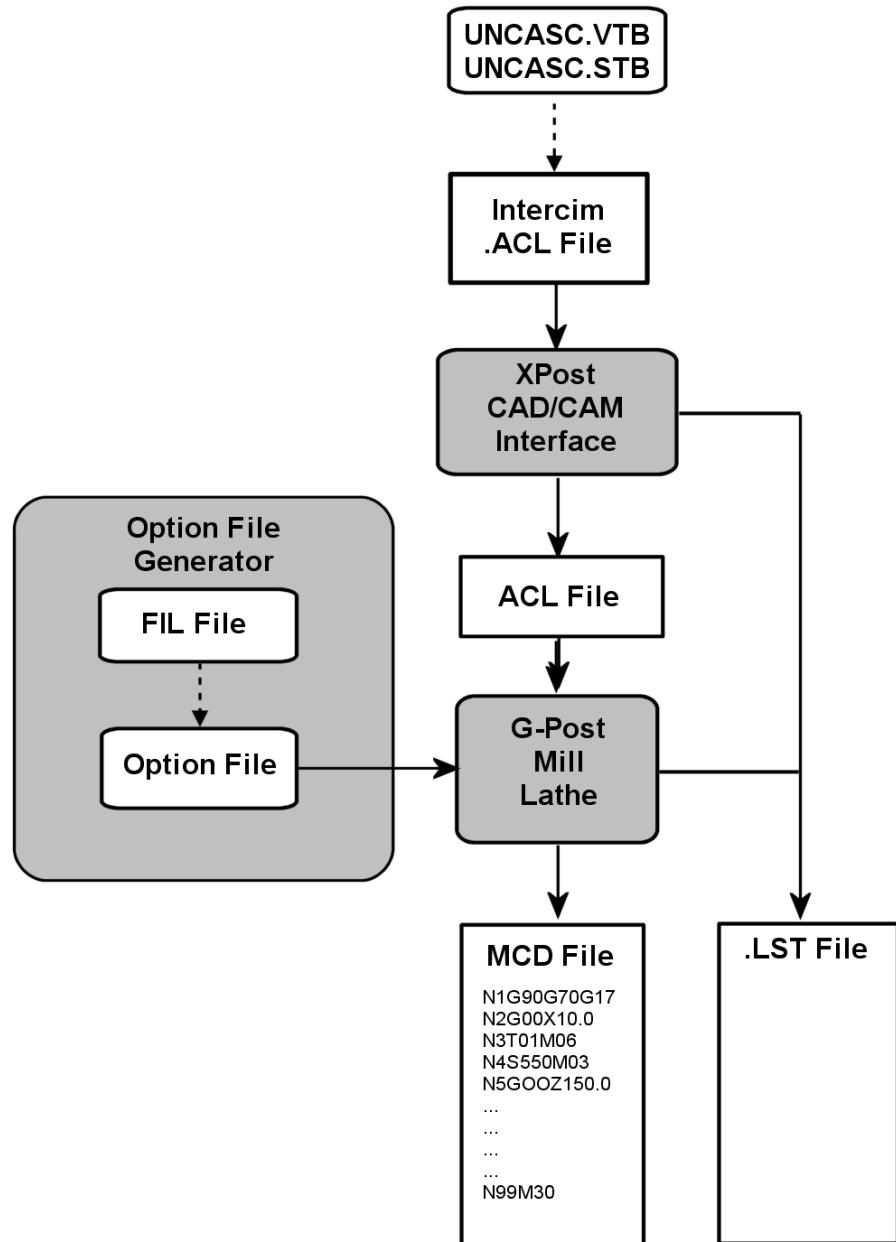


CimPRO NC System Software



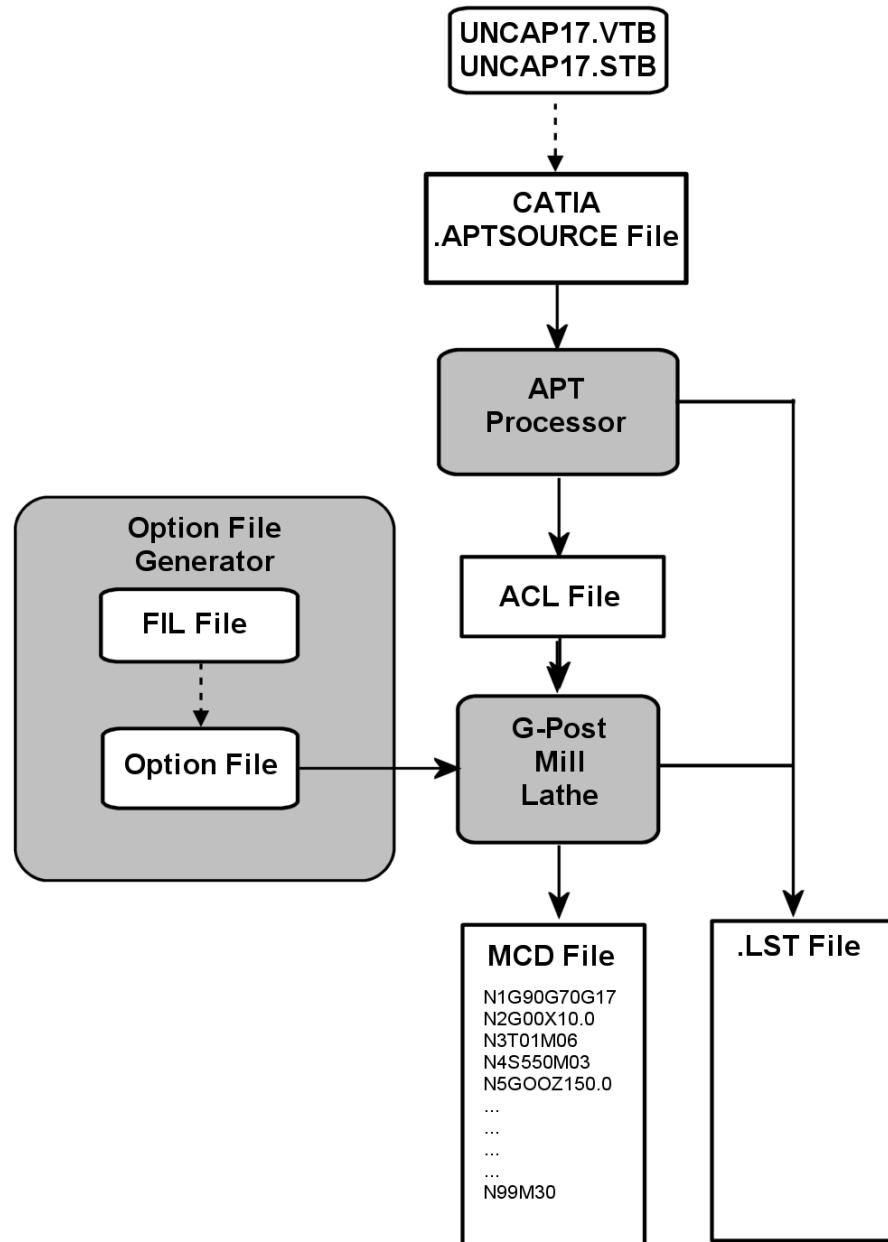
Option included files

## CAD/CAM Interface – Austin NC (Intercim)



CimPRO NC System Software      Option included files

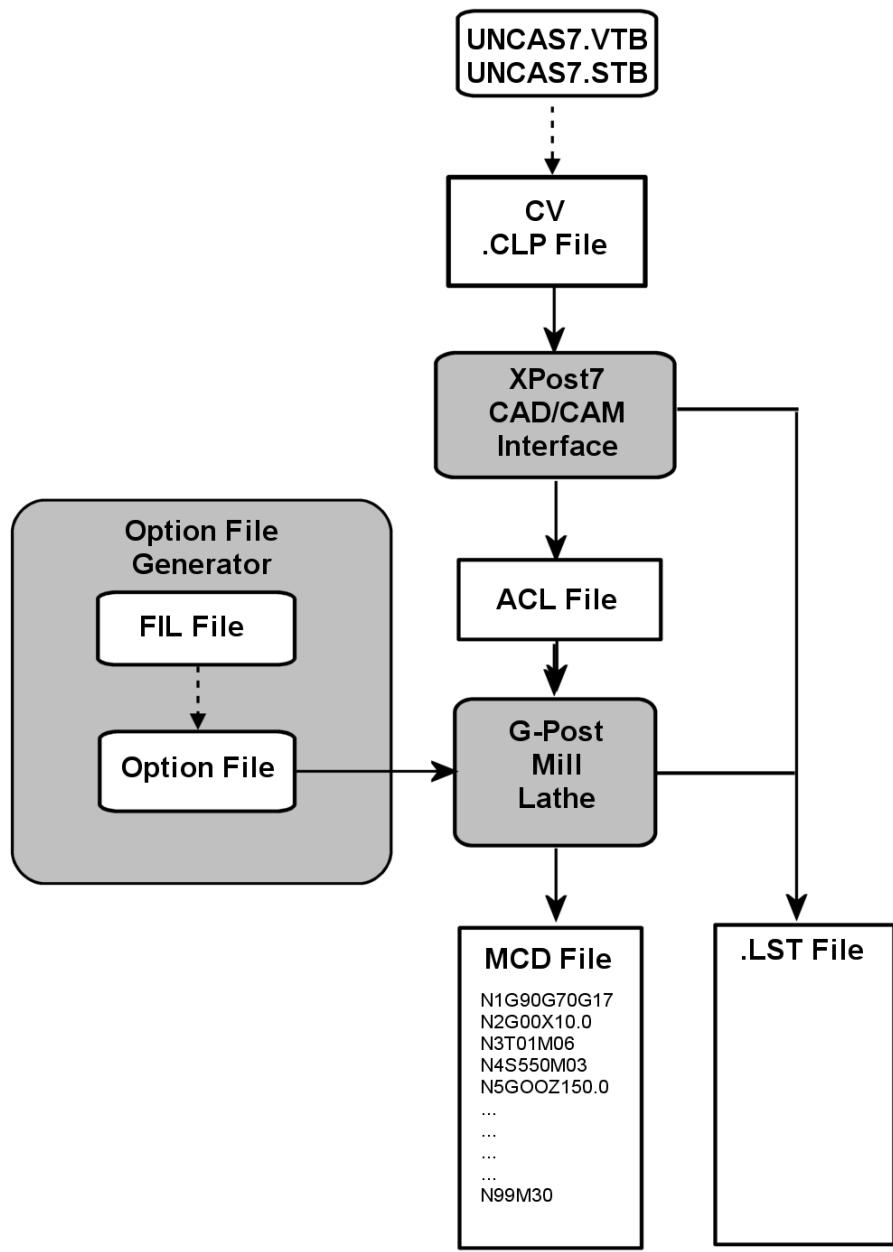
## CAD/CAM Interface – CATIA



CimPRO NC System Software

----&gt; Option included files

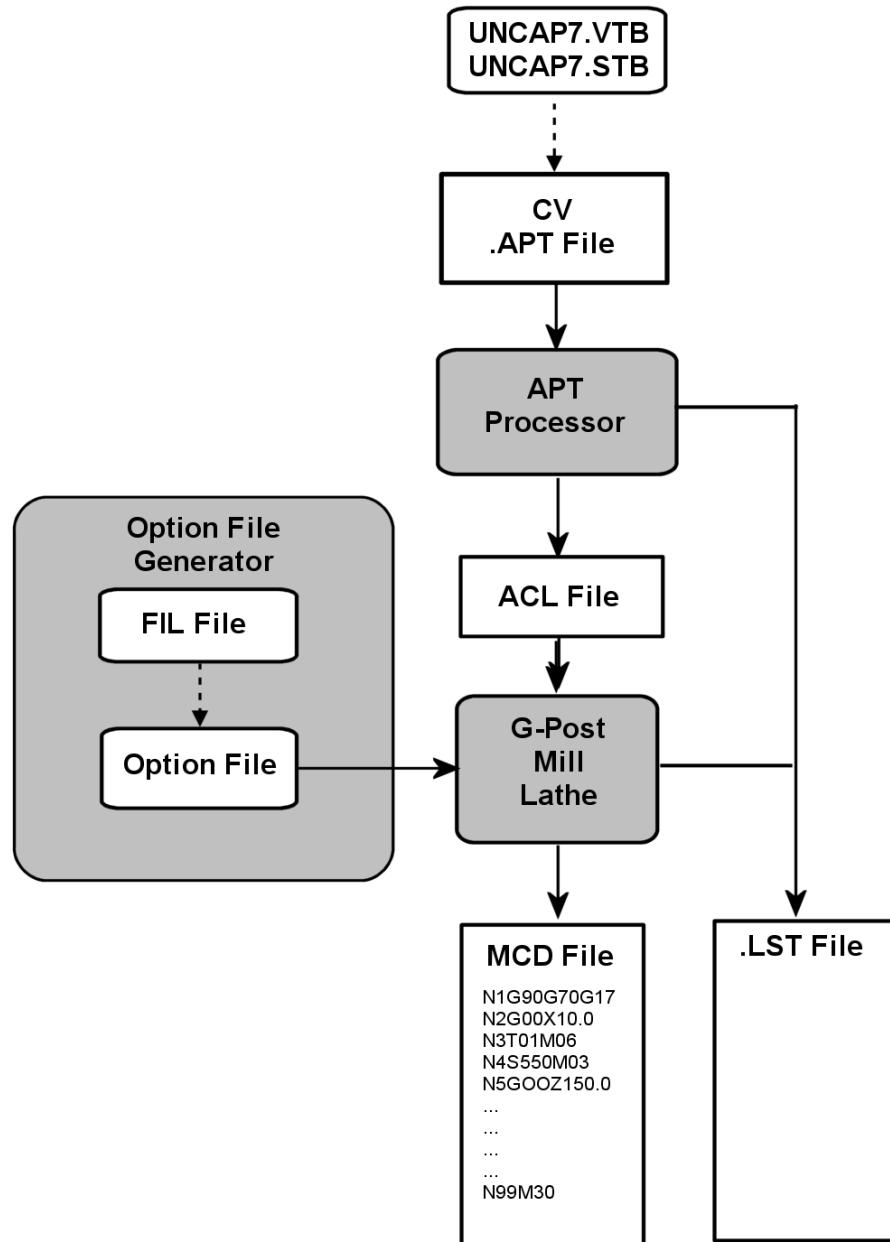
## CAD/CAM Interface – ComputerVision and NiCAM



CimPRO NC System Software

-----> Option included files

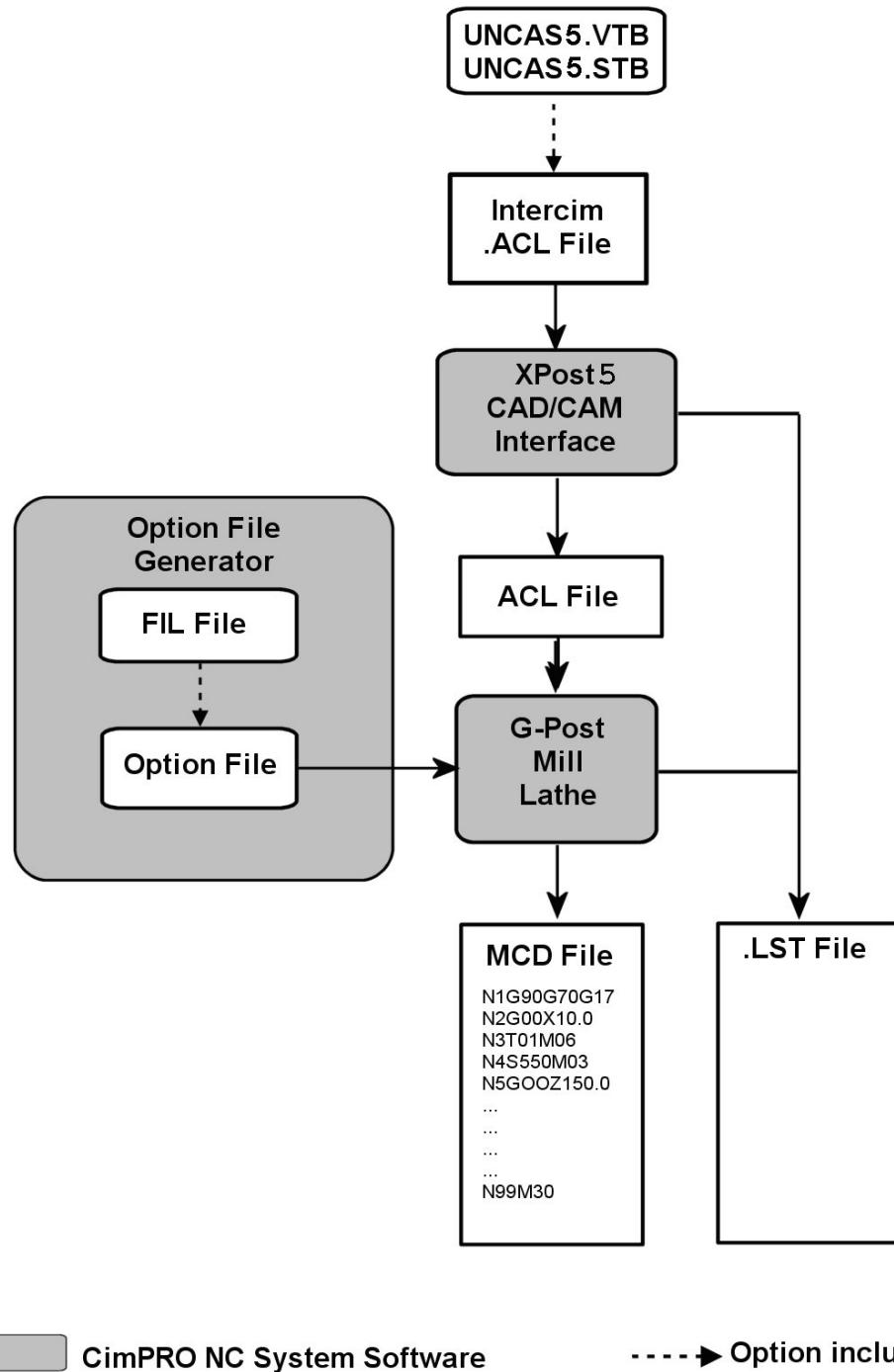
## CAD/CAM Interface – ComputerVision APT



CimPRO NC System Software

----&gt; Option included files

## CAD/CAM Interface – GibbsCAM (Intergraph)

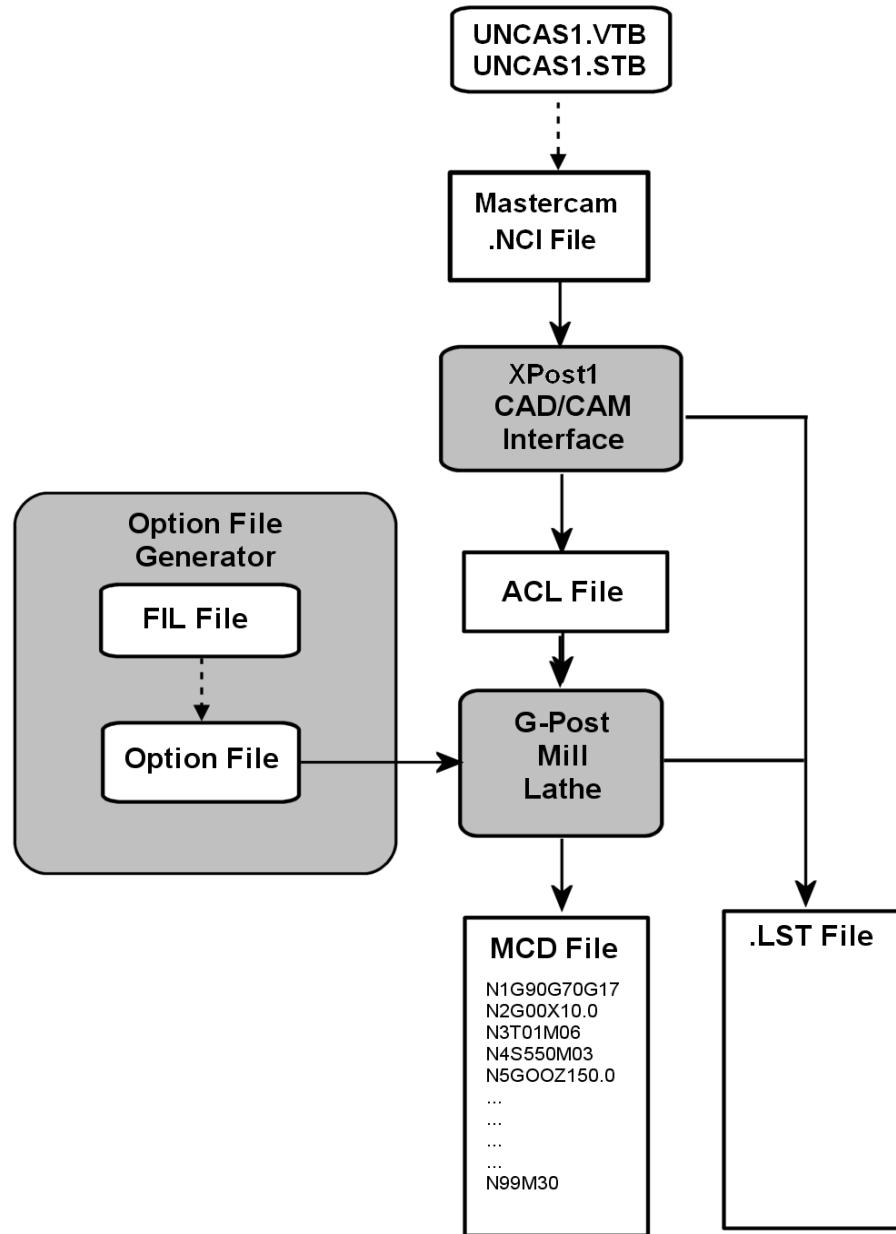


CimPRO NC System Software



→ Option included files

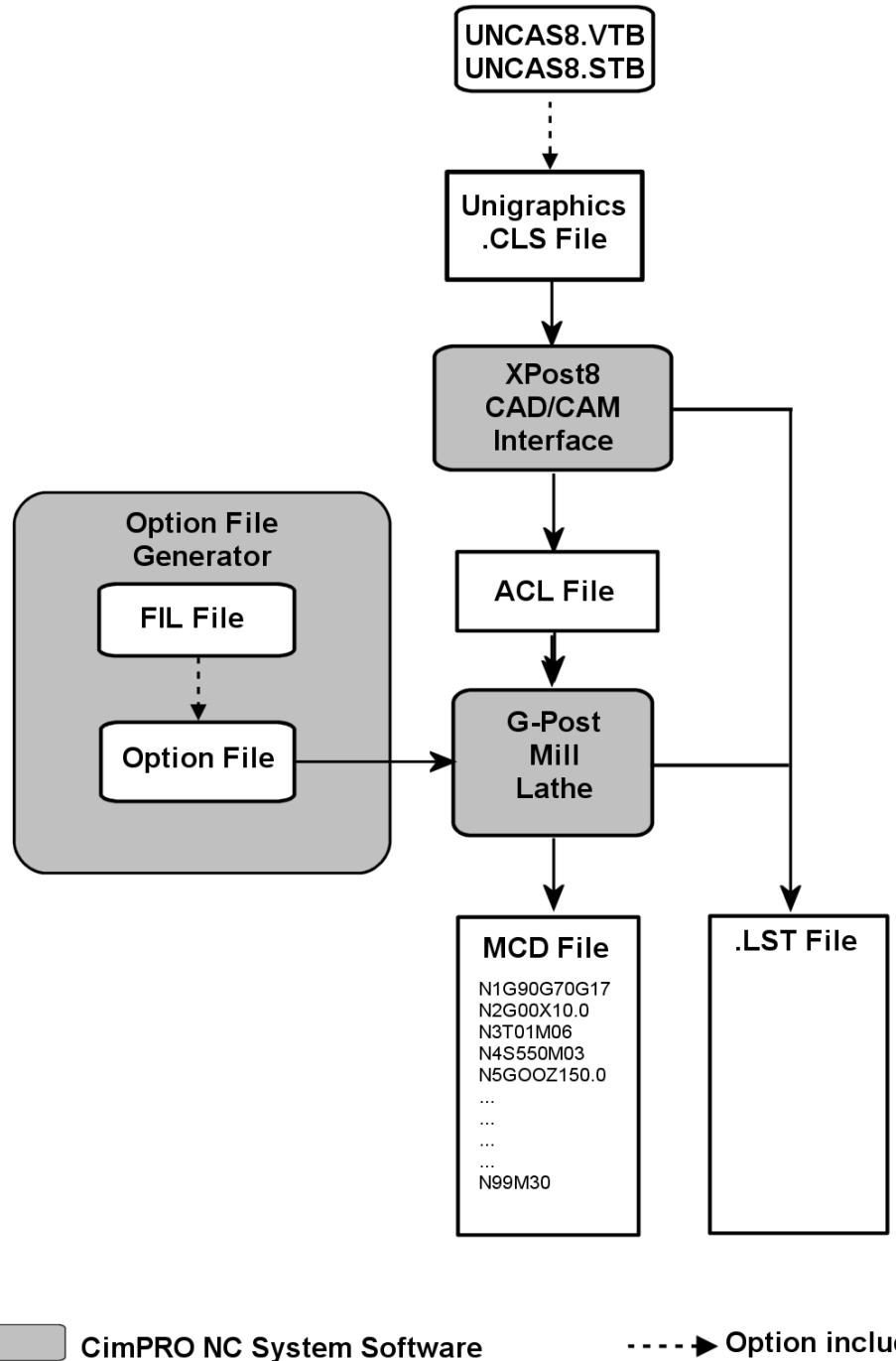
## CAD/CAM Interface – Mastercam



CimPRO NC System Software

----&gt; Option included files

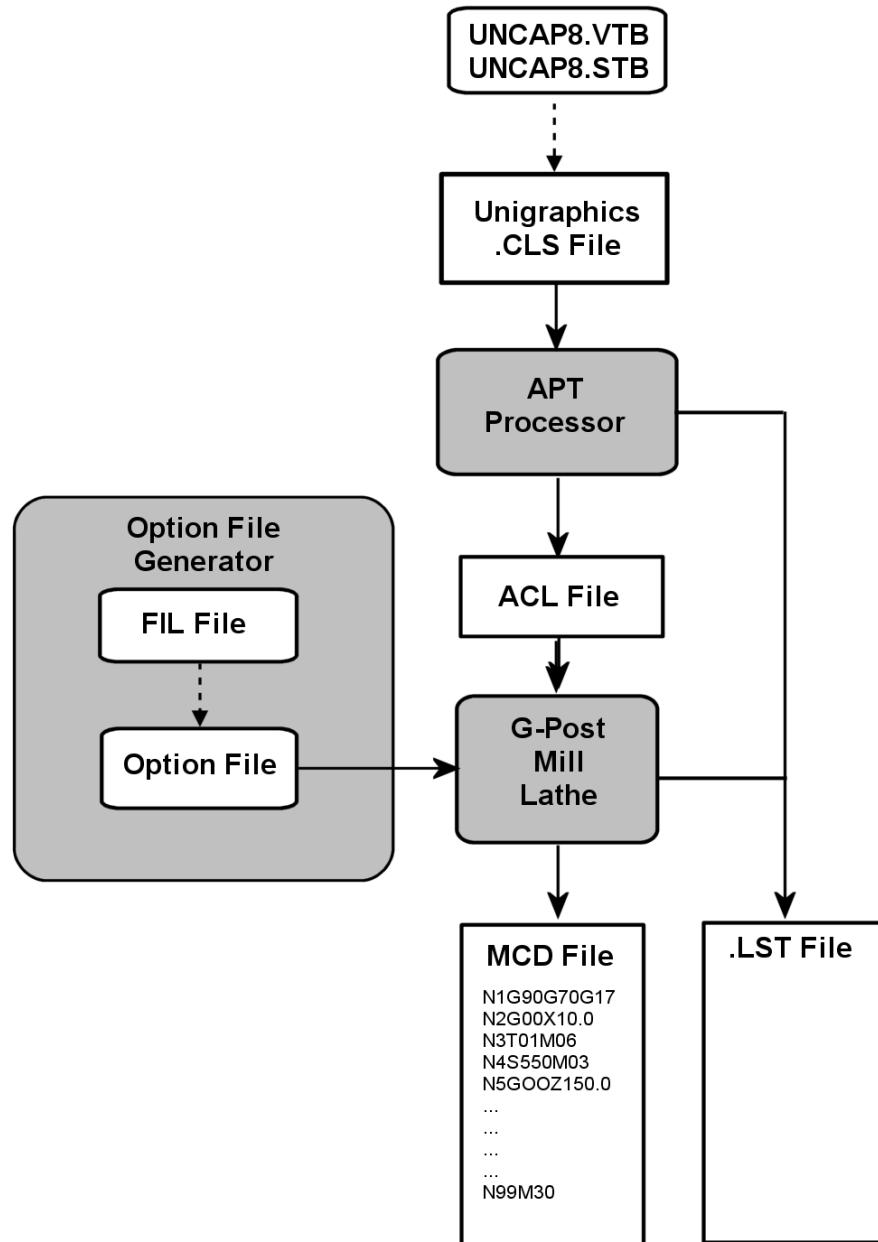
## CAD/CAM Interface – NX (Unigraphics)



CimPRO NC System Software

-----► Option included files

## CAD/CAM Interface – NX (Unigraphics) - APT

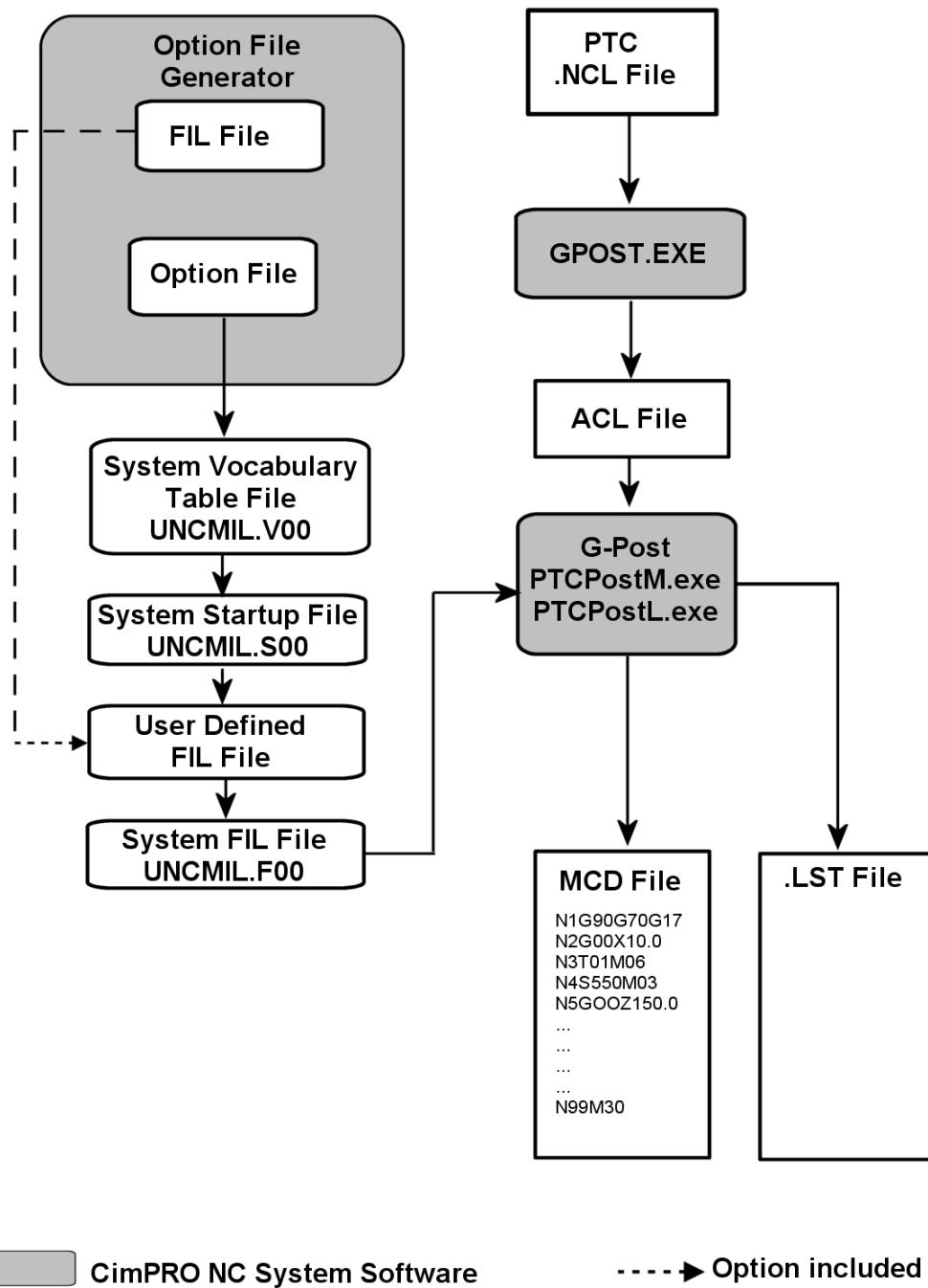


CimPRO NC System Software

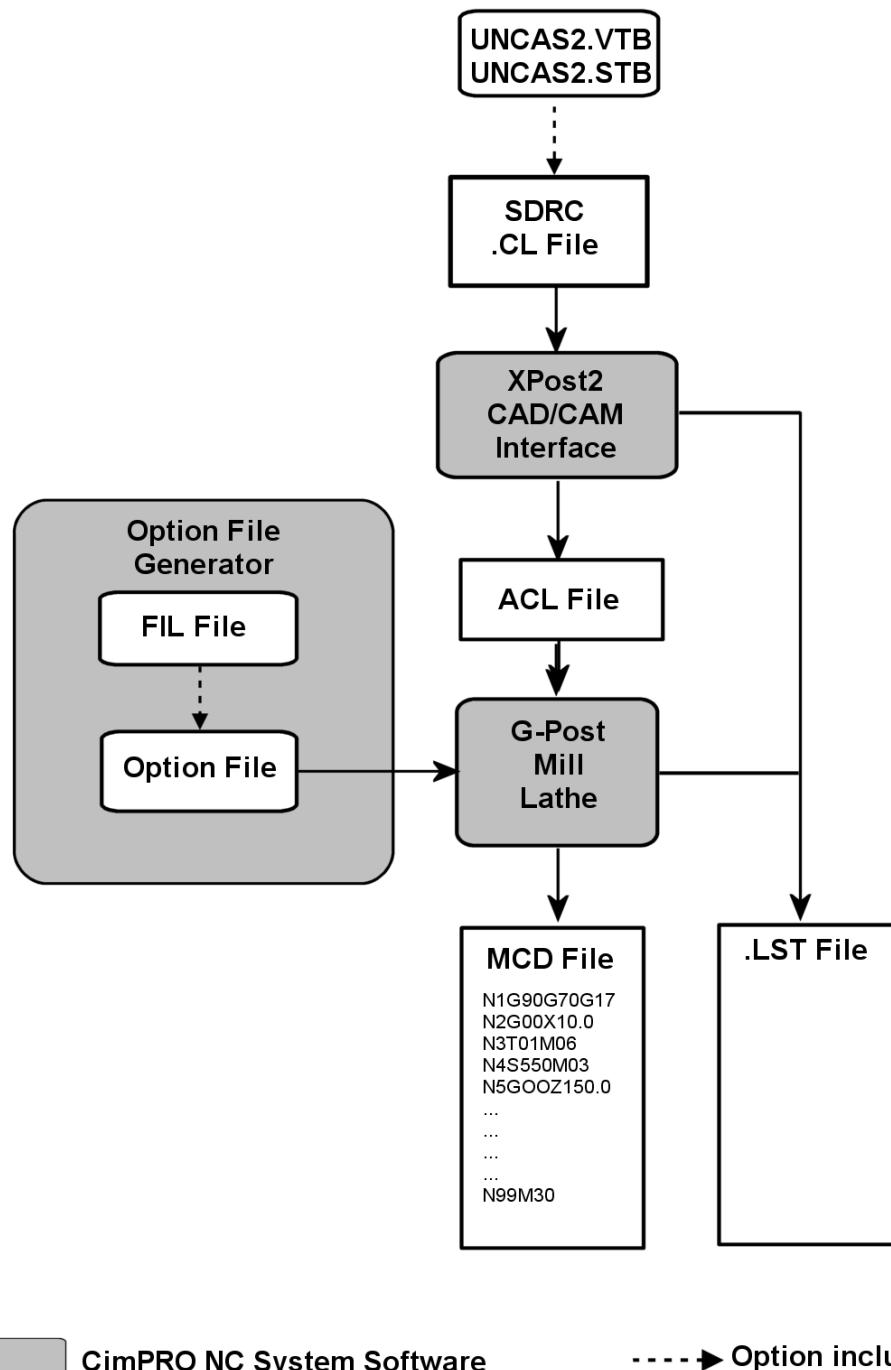
----&gt; Option included files

## CAD/CAM Interface – PTC NC G-Post

**Note:** This interface also includes **CV-NC** (Binary).



## CAD/CAM Interface – SDRC



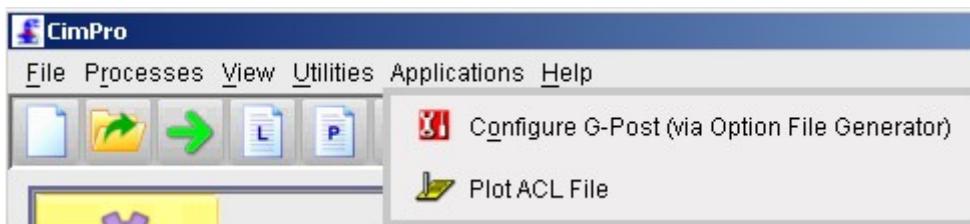
CimPRO NC System Software

-----> Option included files

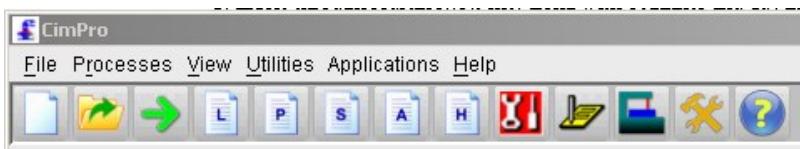
## 6.6 Tutorial - Option File Generator

The Option File Generator is used to create the post processor for a given machine tool. A post processor is basically a converter that converts ACL data into machine tool specific G-Code data. Before you process an APT program or CAD/AM CL file you must create the post processor. The Option File Generator is a complete standalone software package that can be started from within the CIMpro **GUI**. This section simply details how to begin a session with the Option File Generator and how to end it. Details on defining a G-Post post processor can be found in the Option File Generator and G-Post manuals. These manuals are available through Austin N.C., Inc. along with beginner and advanced G-Post training classes.

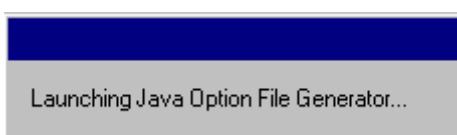
To start the Option File Generator from the pull-down menus, select **Application** then **Configure G-Post (via Option File Generator)**.



or use the **Option File Generator** Button, it is the ninth one and is red and white with pictures of a wrench and screwdriver.

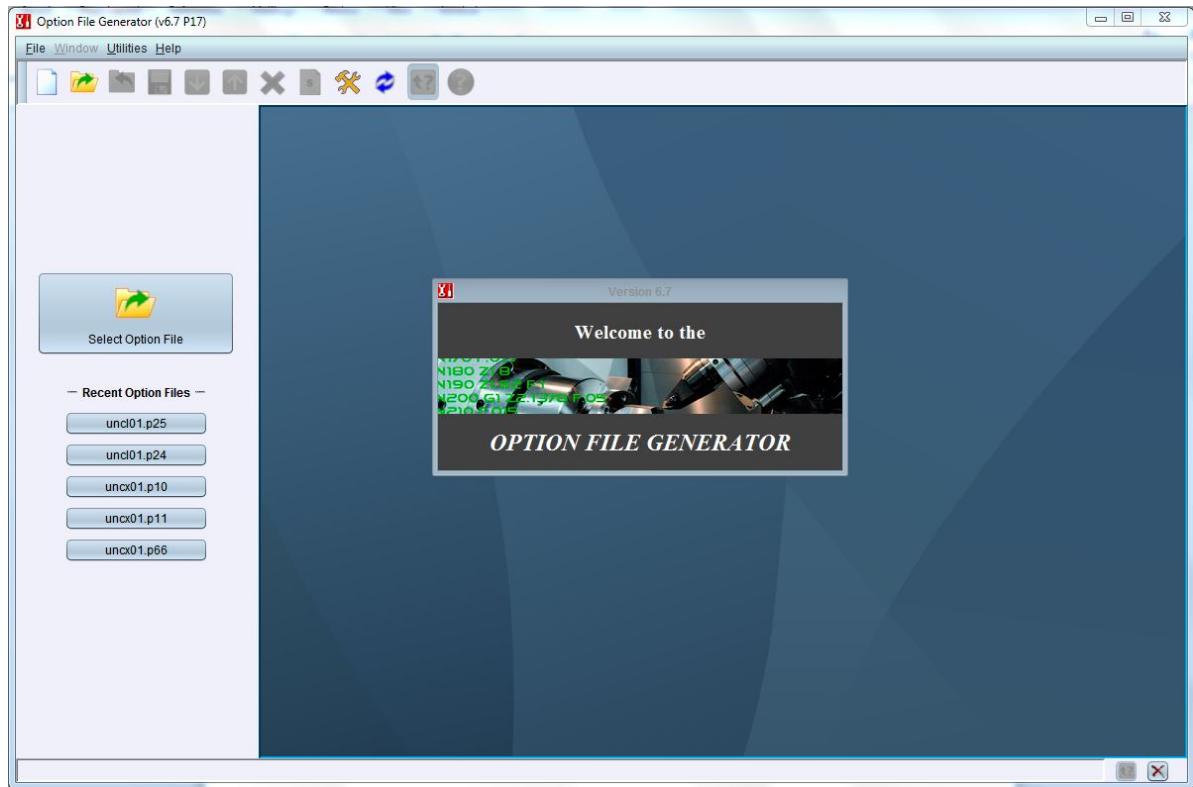


The **Launching Java Option File Generator** dialog will appear,



and the Option File Generator will start.

**Option File Generator:**



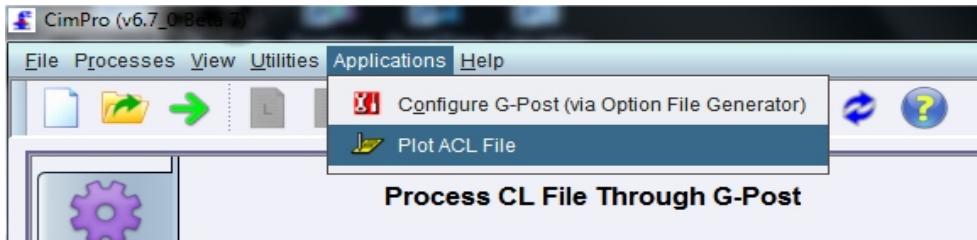
The Option File Generator is now ready to use. Consult the Option File Generator and G-Post User Manuals for details on how to use this product.

When you exit the Option File Generator you will be returned to the CIMpro **GUI**.

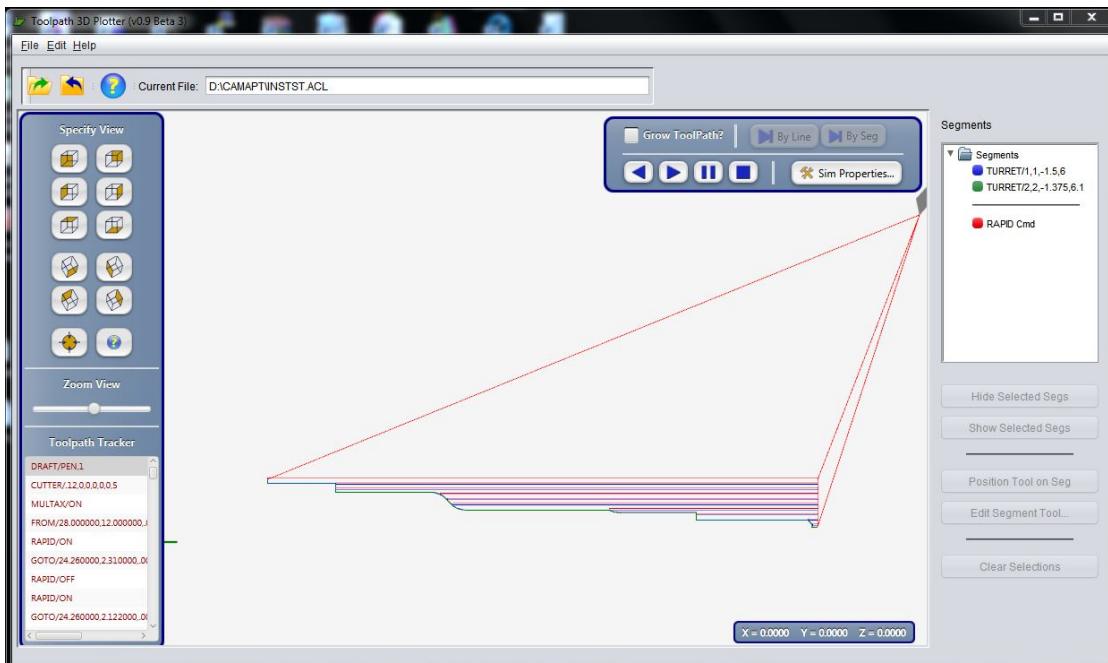
## 6.7 Tutorial - Verifying the tool path with Java Toolpath 3D Plotter (Windows Platforms Only)

CIMpro has a tool path verification product called ***Java Toolpath 3D Plotter***. This product does a centerline plot of the tool path. You can use the many different features of ***Java Toolpath 3D Plotter*** to verify any existing ACL file. This section simply details how to begin a session with ***Java Toolpath 3D Plotter*** and how to end it. Details on using the features of ***Java Toolpath 3D Plotter*** can be found in the online help.

To start the NCPLT3D program select **Application** then **Plot ACL File**.



Selecting the **PLOT ACL FILE** will start the ***Java Toolpath 3D Plotter*** and pass in the current ACL file.



The ***Java Toolpath 3D Plotter*** tool path verification software is now ready to use. Consult the online help for details on how to use this product.

When you exit ***Java Toolpath 3D Plotter*** you will be returned to the CIMpro **GUI**.

### 6.7.1 APT Geometry Plot and DXF file Generation (PLOT Command)

An optional command has been added to the APT system to allow users to generate a plot file of their APT geometry. This command is **PLOT/DRAW**, below is a complete description of this command.

#### **PLOT/DRAW [nnn,xmn,ymn,xmx,ymx,tsz,lyr]**

This command is used to output an IXF file, it will be named as \*.ixf, where \* = name of the input APT source file. If test.apt is the input file, then test.ixf will output. A new utility **createDXF.exe** is used to convert the intermediate test.ixf file to test.dxf file that can be read into a DXF compatible viewer.

```
test.apt-->wuncapt.exe---->test.ixf
test.ixf-->createDXF.exe-->test.dxf
```

**Note:** A Jcimpro button can be defined to convert test.ixf to test.dxf or use execute **createDXF.exe** from Windows.

**nnn**            3-digit number to indicate what data is to be output to DXF.

- 1st-digit 0/1 for APT geometry
- 2nd-digit 0/1 for labeling APT geometry
- 3nd-digit 0/1 for toolpath or CLDATA

100 will plot APT geometry (Default)

110 will plot and label APT geometry

101 will plot APT geometry and CLDATA

**xmn & ymn**      Coordinates of the lower left hand corner of the boundary box.

**Xmx & ymx**      Coordinates of the upper right hand corner of the boundary box.

**Note:** These coordinates are used to trim the lines to these extents as APT line geometry is of infinite length. Default = -20,-20,+20,+20

**tsz**            Size of text for labeling the geometry, default = 0.2 inches

**lyr**            Starting layer number, default = 101

**Notes:** The **PLOT/DRAW** command by itself will use all defaults.

To change any of the default settings, **PLOT/DRAW**, with all 7 parameters must be given.

Place the **PLOT/DRAW** command in APT source file before FINI.

Do not use more than one **PLOT** command.

Only APT geometry of points, lines and circles are output to the IXF file.

Only geometry items named like **P1=POINT/xyz** will be output.

Geometry will be in one layer, geometry labels will be in a 2nd layer,

Toolpath motion or CLDATA will be in a 3rd layer,

Each **LOADTL/TURRET** toolpath section will be in individual layers.

#### **Example:**

APT program test.apt, will output test.ixf after processing by the APT system. Use the utility **createDXF.exe** to make test.dxf, which can be viewed in a DXF compatible viewer.



## 7 Utilities

This chapter details the use of several utility programs supplied with the NC Software (CIMpro – G-Post – APT). They are standalone programs and are all located in the **SYSTEM** directory, normally **CAMSYS**.

### 7.1 Wprtsysid.exe

Once the CIMpro software is installed, you can use the license program, **wprtsysid.exe** to test the current software license installed or get the new system id to obtain a new license.

From the **Start** menu, select **Run** and either use **Browse** or enter the license program filename to execute: **C:\CAMSYS\wprtsysid.exe**. The path **C:\CAMSYS** may be different on your installation. Select **OK** to run the program. The program will display its initial dialog prompting the user for **P(Print)**, **N(Node)** or **S(Server)**. When you enter one of these letters and hit the ENTER key the following will happen:

#### **P (Print):**

The program will display several lines of data, the 1<sup>st</sup> three lines give you information about your installation and setup. Line one shows the current definition of the **CAMSYS** system variable (see **System Setup** chapter). Line two shows the **config.tbl** (see **System Setup** chapter) file being used to define the system. Line 3 shows the current definition of **UNC\$SYSTEM** (see **System Setup** chapter), which defines where the actual system executables and software license file is located. After the 1<sup>st</sup> three lines comes the actual information about the software licenses found such as the **SYSTEM ID**, **SECURITY ID**, **LICENSE TYPE**, etc. There is a section for each of our software suites. This option is normally run the check an existing license.

You may also see Chapter 5, Section 5.1.1.1 of this manual for a complete breakdown of the license information displayed by **wprtsysid.exe**.

#### **N (Node):**

Entering **N** will display the **system id** of the computer you are using. The **wprtsysid.exe** program creates a **wprtsysid.log** file containing this information. This file can be attached to an Email or printed and Faxed to Austin N.C., Inc. Austin N.C., Inc. will create the license file. This option is normally run the get the system id of a node installation to obtain a license.

#### **S (Server):**

Entering **S** will display the current mapped network drives on your system. You must enter the desired **Mapped Drive (Z:)** or the exact **Server share folder name** (i.e. **\NC100\AUSTINNC\**).

Entering the **Mapped Drive (Z:)** will display **Your system id**. The program **wprtsysid.exe** creates a **wprtsysid.log** file containing this information.

Entering the **Server share folder name (\NC100\NCDEV\)** will display **Your system id**. The program **wprtsysid.exe** creates a **wprtsysid.log** file containing this information..

This option is normally run the get the system id of a server installation to obtain a license.

## 7.2 Wncrypt.exe

The purpose of this utility is to protect or lock the FIL source data from modification.

This encryption method is much simpler than the preprocessed macros method of **PUNCH-READ/20**. The encrypted file can be any valid FIL text unlike the preprocessed macros. You can continue to use both methods.

**Caution:** Once a FIL file is encrypted using **wncrypt.exe** it cannot be decrypted. So save your original FIL source files.

On Windows systems, you encrypt a FIL file by executing **\CAMSYS\wncrypt.exe**

The encrypt executable will prompt for the input/output file names or you can pass them as arguments as, “Wncrypt.exe Test1.dat Test1.bin”, to encrypt the source file Test1.dat into Test1.bin. We suggest you name the output file as \*.bin so you can identify them as encrypted files.

You may also see Chapter 4, Section 4.22 of the FIL manual for a complete breakdown of the usage of **wncrypt.exe**.

## 7.3 Wncprt.exe

The purpose of this utility is to format the **Listing File (.LST)** so it may be printed on a Windows type print media.

Wncprt.exe expands the print control characters (FFeed, LFeed) in the **Listing File (.LST)** file for printing on a Windows type print media. This utility will run on **Windows** 32 & 64 bit OS.

## 7.4 Wmatchif.exe

This utility has been supplied to help find mismatched **IF-ENDIF** and/or **CASE-ENDCASE**, it is located in the **CAMSYS** folder. If the FIL file is very large or has many **INCLUD/files**, it can be difficult to trace the above mismatch error or offending FIL line. This utility can list the **IF-ENDIF** mismatches to an output LST file. To use it to check the FIL file **uncx01.f21**, enter **\camsys\WmatchIF.exe uncx01.f21** at a command prompt, it will check **IF-ENDIF** and make **uncx01\_f21.lst** file.

## 7.5 CreateDXF.exe

This utility will convert the intermediate IXF file to a DXF file that can be read into a DXF compatible viewer. The IXF file is generated by the use of the **PLOT/DRAW** command. It will be named as \*.ixf, where \*=name of the input APT source file. If test.apt is the input file, then test.ixf will output. See the **PLOT** command description in section 6.7.1 of this manual.

## 7.6 Wnseqdif.exe

A new utility ***Wnseqdif.exe*** has been added to compare two tape files. To use it make a desktop Icon to launch the utility **|camsys|Wnseqdif.exe**. It will require a Freeware utility ***ExamDiff.EXE*** to be in the **|camsys|** folder. You must download ***Examdiff.exe*** as it is not on our CD. You can get this utility at no cost from: [http://www.prestosoft.com/edp\\_examdiff.asp](http://www.prestosoft.com/edp_examdiff.asp).

For PTC users, make a folder named ***c:\anc\camsys\*** and then copy the ***~obj\Wnseqdif.exe*** and ***ExamDiff.exe*** in this folder.