



TechSoft 2D Design -
Denford Extensions
User Manual



Introduction

The TechSoft 2D Design - Denford Extensions software package will allow you to fully experience CAD/CAM, from your initial on-screen ideas through to part manufacture on your Denford CNC (Computer Numerically Controlled) machine.

CAD - Computer Aided Design.

TechSoft 2D Design for Windows is a powerful drawing package, suitable for composing graphics, technical draughting and general designwork. Drawings are built-up using a series of vector objects (lines, boxes, circles, etc.) which allow accurate placement and scaling of any designs. This makes TechSoft 2D Design an ideal package for teaching the principles of CAD.

CAM - Computer Aided Manufacture.

At this stage, your design exists purely as a drawing. In order to progress into CAM, you must begin to specify various machining settings, such as depths and widths of cut.

The Denford Extensions allow you to pass your drawing through a post processor. As its name suggests, this software converts your drawing into the programming language used by your Denford CNC machine - G and M codes.

How to use this manual...

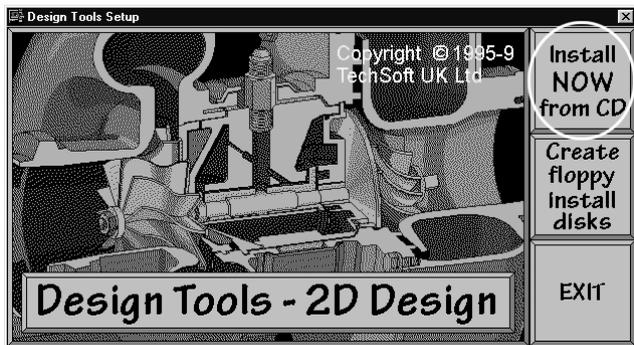
This manual will help you install your new version of TechSoft 2D Design and the separate Denford Post Processor software. A brief troubleshooting and FAQs (Frequently Asked Questions) section is also included to help avoid the most common problems.

This manual will not instruct you how to operate TechSoft 2D Design, your Denford CNC machine or your CNC machine controlling software. Please refer to the separate documents and/or helpfiles provided with these products.

Installing TechSoft 2D Design for Windows

Follow these instructions to install the TechSoft 2D Design software onto your computer:

- 1) Switch on your computer and start Windows 95/98, if required.
- 2) Uninstall any existing copies of TechSoft 2D Design software.
Click on "Startbar | Settings | Control Panel", then double click "Add/Remove Programs". Select the "Install/Uninstall" tabbed panel", then choose "Design Tools - 2D Design" from the list. Click the [Add/Remove] button to uninstall the software.
- 3) Insert the "TechSoft Design Tools - 2D Design" CD-ROM into your CD-ROM drive. If your CD-ROM is set to autorun, the welcome window will automatically be displayed - move to section 5). If the welcome window is not displayed, continue to section 4).
- 4) Double-click the left mouse button on the "My Computer" icon. In the "My Computer" window find your CD-ROM drive icon (usually labelled "D:" or "E:") and double-click the left mouse button on this icon. The contents of the CD-ROM will be displayed in a new window. Double-click the left mouse button on the file named "Setup.exe" to start the Design Tools Setup program.



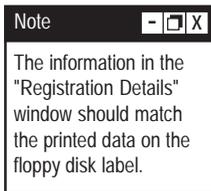
- 5) In the "Design Tools Setup" window, click the square button labelled [Install NOW from CD], as circled in the screen above.
- 6) In the "Welcome" window, click the [Next] button.

continued...

Installing TechSoft 2D Design for Windows



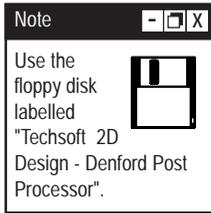
- 7) The "Setup Needs the Registration Disk" window will be displayed, as shown above. Place the separate "TechSoft Design Tools - Registration Disk" in your floppy disk drive. **Important - Your registration disk MUST be labelled "Extensions: Denford" in order for the 2D Design software to operate successfully with your Denford CNC machine.**
If your floppy disk drive is labelled as "A:" click the [OK] button, otherwise [Browse] and change the "path" to the correct drive letter before continuing.
- 8) In the "Registration Details" window, check and confirm your details are correct by clicking the [Next] button.
- 9) Read the "Software License Agreement" carefully, then click the [Yes] button to accept the conditions of the license.
- 10) In the "Choose Destination Location" window, select the area of your hard-disk where the TechSoft 2D Design software can be installed. We strongly recommend that you use the default directory structure suggested - "C:\Destools\2ddesign".
- 11) In the "Setup Type" window, select the type of installation required, from "Typical" (recommended), "Compact" and "Custom", then click the [Next] button to begin installing the files.
- 12) Click the [Finish] button, from the "Setup Complete" window, to complete the installation process. Once the software has been installed, we recommend you place your master CD-ROM and floppy disk in a safe dry location.
- 13) **Next, you MUST install the Denford Post Processor software on your computer.**
The current installation of the TechSoft 2D Design software will only allow you to draw a design and not convert it into programs for use with your Denford CNC machine.



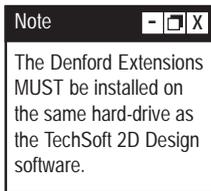
Installing Denford Post Processor Software

Once the TechSoft 2D Design software has been successfully installed on your computer, locate the floppy disk labelled "TechSoft 2D Design - Denford Post Processor". This floppy disk contains additional file libraries that allow G and M code files, suitable for use with your Denford CNC machine, to be created from your TechSoft 2D Design drawings.

Follow these instructions to install the Denford Post Processor software:



- 1) Insert the floppy disk labelled "Techsoft 2D Design - Denford Post Processor" into your floppy disk drive.
- 2) Double-click the left mouse button on the "My Computer" icon. In the "My Computer" window find your floppy disk drive icon (usually labelled "A:" or "B:") and double-click the left mouse button on this icon.
- 3) The contents of the floppy disk will be displayed in a new window. Double-click the left mouse button on the file named "Setup.exe" to start the Post Processor Setup program.
- 4) In the opening "Welcome" window, click the [Next] button.
- 5) In the "Choose Destination Location" window, select the area of your hard-disk where the Denford Post Processor software can be installed. We strongly recommend that you use the default directory structure suggested - "C:\Denford".
- 6) In the "Setup Complete" window, click the [Finish] button to complete the installation process. Once the software has been installed, we recommend you place your master floppy disk in a safe dry location.

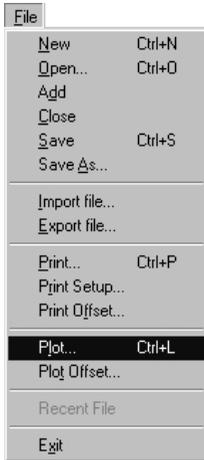


Installing TechSoft 2D Design and Denford Post Processor Software on a Network

When installing on a network, be aware that both products must be installed on the same drive. For example, if TechSoft 2D Design is installed to the path "N:\Destools\2ddesign", then Denford Post Processor software would be installed to the path "N:\Denford", where "N:" is the drive letter assigned to your chosen network hard disk.

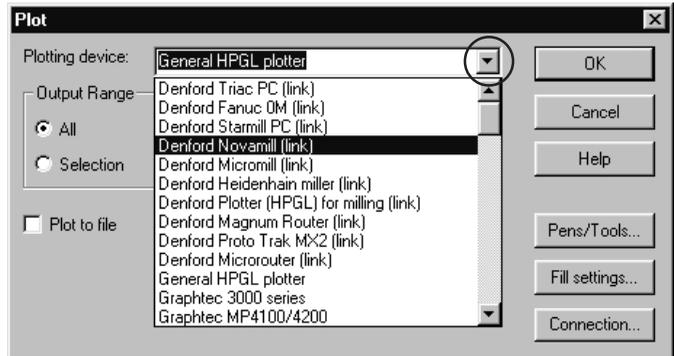
Additionally, the area of your network hard disk used for installation of the Denford Post Processor software MUST have read/write access. If the area is read only, G and M code programs cannot be generated.

How to use the Denford Post Processor

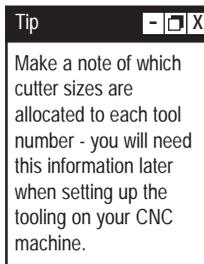


Complete your design drawing using TechSoft 2D Design.

From the 2D Design menubar, click "File | Plot", shown right, to display the "Plot" window.



Click the [down arrow] button in the "Plotting device" dialogue box, to display a dropdown list of output devices, as shown above.



Select the name of the Denford CNC machine you will be using to manufacture your design, so it appears in the "Plotting device" window. In the example below, we have chosen to post process our drawing for a Denford Novamill.

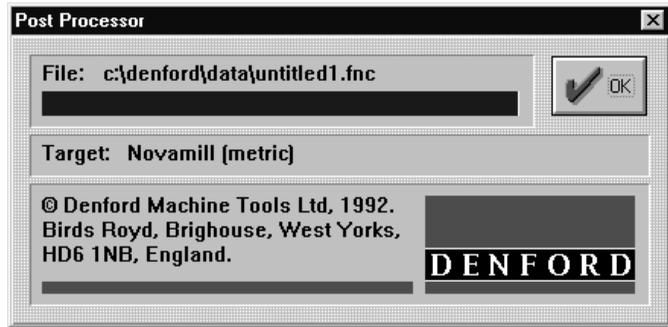


In the "Plot" window, click the [Pens/Tools...] button to display the "Denford [machine name] (link) Setup" window. The options in this window define machining parameters such as, order of cutting, depths of cut, tool numbers, tool diameters, feedrates and spindle speeds.

Similarly, click the [Fill Settings...] button to display the "Output Fill Settings" window. The options in this window define how pockets (large areas of material to be removed) will be machined.

How to use the Denford Post Processor

When all machining parameters have been set, click the [OK] button in the "Plot" window, to begin post processing your drawing.



The "Post Processor" window will appear (as shown above) displaying the following:

- The location where the G and M code program will be saved (using a default installation of the Denford Extensions software, all G and M code programs are saved to "C:\Denford\Data").
- The name of the G and M code program. G and M code program, also called CNC files, are saved using the current name allocated to your 2d design drawing, with the file extension ".fnc".
- A moving horizontal bar indicating the progress in construction of the file.
- The target CNC machine, or in other words, the type of Denford CNC machine for which the G and M code program has been specifically written.

When post processing has completed, click the [OK] button to close the "Plot" window.



You may now load or transfer the G and M code program into the software used to control your Denford CNC machine.

Troubleshooting

Q) There are no Denford CNC machines listed in the "Plot" window dropdown list?

A) Check the following:

- Have you uninstalled all previous versions of TechSoft 2D Design?
- Is your "TechSoft Design Tools Registration Disk" specifically labelled "Extensions: Denford"? If not, contact Denford Limited, since your registration disk will not allow the Denford Post Processor to work correctly.
- Have you installed the Denford Post Processor software on your computer, AFTER installing TechSoft 2D Design? Remember, the Denford Post Processor software is supplied on a separate floppy disk.
- Has the Denford Post Processor software been installed to the same hard disk drive (letter) as the TechSoft 2D Design software? If so, does the hard disk location, where the Denford Post Processor software is installed, have both read and write access?

Q) Although there are Denford CNC machines listed in the "Plot" window dropdown list, the post processor doesn't seem to work?

A) Check the following:

- Has the Denford Post Processor software been installed to the same hard disk drive (letter) as the TechSoft 2D Design software? If so, does the hard disk location, where the Denford Post Processor software is installed, have both read and write access?
- Check the entries in your "Win.ini" file. From your Windows Startbar, click "Start | Run", enter "Sysedit" and click [OK]. Select the "Win.ini" file and check the following entry exists as listed below:

[Denford Machine Tools]

Directory=c:\denford\

(where c:\denford\ is the path chosen during initial installation of the Denford Extensions software).

In particular, check the syntax of any entries.

It's also worth checking the FAQ (Frequently Asked Questions) section, on the Denford website (<http://www.denford.com>), to see if your problem is listed.

If all else fails, contact Denford Technical Support for direct help (see page11).

Frequently Asked Questions

Q) How do the Denford Extensions integrate with the TechSoft 2D Design software?

- A) TechSoft 2D Design with Denford Extensions links with elements of the Denford CNC machine control software. There are two instances at which the link takes place:

When TechSoft 2D Design with Denford Extensions is started up, it looks for the Denford file "Machdata.ini", which contains a list of Denford CNC Machines, in the "[MILLING]" section. If successful, these machines are then automatically added to the list of plotting devices in the "Plotting device:" setup dialogue box of the TechSoft 2D Design software "Plot" window..

After using the TechSoft 2D Design software "File | Plot" menu, with a Denford CNC machine chosen, the Denford file "Denlcall.exe" is called. This processes data from 2D Design, converting it into the G and M code program appropriate to the particular Denford CNC machine.

If the link fails, the usual cause is that the Denford Post Processor software has not been installed, or not been installed correctly. Please refer to the Troubleshooting section on the previous page.

Q) The G and M code program files are always saved to "C:\Denford\Data". I want to save them to a different area, such as my floppy disk drive - is this possible?

- A) Yes, though you must make some changes to your TechSoft 2D Design software program files, as outlined in the instructions below.

By default, Design Tools – 2D Design reads the path to the Denford files "Machdata.ini" and "Denlcall.exe" from the Denford entry in the Windows "Win.ini" file. However, for advanced users only, this can be overridden if necessary, by additional entries in the TechSoft 2D Design software file "2ddes.ini". Double click on the ini file to open it in a text editor. Typically, you would add the following three lines:

```
[LINKS]
DenfordProgramDirectory=C:\DENFORD
DenfordDataDirectory=C:\DENFORD\DATA
```

(Location of Denford Extensions Software) (Location where created CNC programs are saved)

(Adapt the pathnames to suit your particular system).

Note

"2ddes.ini" must always reside in the same directory as the exe file. If your "2ddes.ini" file has become corrupted, copy the file "2dorg.ini" and rename the copy "2ddes.ini". ("2dorg.ini" is the original ini file, i.e. in its factory release state).

Technical Support

Denford Limited provides unlimited Technical Support on the **Denford Post Processor component of the 2D Design software only**. All other questions regarding usage of the 2D Design software must be directed to the Technical Support team of TechSoft UK Limited - please refer to the 2D Design software helpfile and your printed documentation for their contact details.

Before contacting Denford Technical Support, please check the FAQ (frequently asked questions) on the Denford website:
<http://www.denford.com>

Technical Support is only available to registered users. When you request Technical Support, please be at your computer, with your computer and software documentation to hand. To minimise delay, please be prepared to provide the following information:

- Software name and version number (found in the "Help | About 2D Design" menu).
- License type, Licensee name and Serial Number (displayed each time the software is started or printed on your "Registration Disk").
- The wording of any error messages that appear on your computer screen.
- A list of the steps that were taken to lead up to the problem.

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