



## CADRA® NC Overview

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CADRA® NC brings flexible, yet comprehensive multi-axis numerical control (NC) programming capabilities to the CADRA family of CAD/CAM products from SofTech.

### Uses

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- Add NC capabilities to your CADRA system
- Generate 2-5 axis NC programs with full mill turn support
- Control a diverse mix of CNC machine tools via the CADRA NC post-processor

## The CADRA® NC Family of Solutions

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We have taken a modular approach to solving your CNC requirements. CADRA NC can be added to your existing CADRA system, one module at a time. Available modules include:

- CADRA NC 2 ½ Axis module
- CADRA NC Lathe module
- CADRA NC 3 Axis module
- CADRA NC Advanced Surface module
- CADRA NC 4-5 Axis module
- CADRA NC Post processor generator
- CADRA Custom Post processors

## Why Choose CADRA® NC?

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**Extensive tools for preparing the CAD database.** CADRA NC provides an array of tools for quickly and efficiently converting CAD designs into manufacturing databases. The database is converted from binary into ASCII format, arc and vectors are replaced with infinite length geometric elements (so machining can be accomplished without creating additional geometry) and the database is updated relative to the print tolerances.

**Flexible NC programming.** The manufacturing engineer has the ability to determine cutting direction, tooling sequence and machining methods.

**A visual programming environment.** CADRA NC provides complete control over the graphic display as you are programming a part. You can pan/zoom, rotate parts, obtain 3D projections and view the tools in relation to the parts. Programming can be done in either 2D or 3D.

**Full control of machining variables including feed rates, speeds, offsets and other machine features.**

**Dynamic tool display for previewing machining operations.**

**Support for canned CNC cycles.** Incorporate canned CNC cycles resident on individual machine tools directly into CADRA NC programs.

**Automatic roughing and pocketing routines for removing large amounts of stock from the workplace.**

**Feature based machining.** Store and re-use objects, part features and configurations. Program it once and CADRA NC retains the proper settings.

**Fully associative toolpaths.** CADRA NC maintains a direct relationship between the part and its NC toolpaths.

**Interactive error checking.** CADRA NC constantly scans for geometric errors, potential collisions and improper tool sizes. When these are detected, error messages are generated to warn the user.

**Native geometry creation for making modifications to part designs without leaving the NC environment.**

**ASCII database representation.** NC programs are saved in an ASCII format so on-the-fly changes can be made without returning to the graphic programming environment.

**Parametric editing capabilities.** The FlexDesign utility adds powerful variational and parametric capabilities to CADRA NC, enabling you to quickly and easily make design and NC programming changes.

**Standard high level programming commands such as IF, DO-LOOPS and JUMP are built in.** This eliminates the need to use FORTRAN or C to create custom sub routines for family of parts programming.

**Tool and material libraries for storing often used tools, fixtures and materials.**

**Translators for leading CAD packages.** CADRA NC reads CADRA databases directly. Translators are available for reading geometry in other formats including APT (Automatically Programmed Tool), CADAM, CATIA, CADD54X/5, DXF/DWG and IGES.

**User customization tools for adding your own menus, machining methodologies and sequencing to your environment.**

**Post processor generator for writing custom posts for virtually any machine tool.**