



NetDNC Feature Overview Summary

NetDNC for Windows XP Vista through to Windows 95 is a 32-bit multi-threaded communications & file management system allowing simultaneous upload and download to multiple CNC controls and includes a CNC Editor and Backplotter. NetDNC is easily connected to CAD/CAM systems over industry standard networks and is available in a Client-Server configuration. Besides machine tool DNC communications, other shop floor data can be collected from shop terminals, tool pre-setters, bar code equipment or SPC systems.

Remote Features

Remote uploads and downloads directly from the CNC control

The CNC operator can upload, download, or run the CNC control in a direct ("drip feed") DNC mode right from the control itself without requiring any add-on hardware. The NC files can be on the local DNC computer or on any accessible network drive.

The CNC operator does this...

The CNC operator "punches" out a 2 to 3 line file containing the NC filename and sets the control to "read". The file requested is automatically sent back to the CNC. To upload files from the control to the DNC computer, the CNC operator punches the file. It is automatically named, saved and stored in the correct folder.

Remote sends back Directory Listings

The CNC operator can output a Remote "Command" program with the characters "RMTDIR" and the DNC system will send back a listing of all of the programs available for downloading in the form of a CNC program itself.

Remote lets you Restart programs

Restart a program from the CNC control when a tool breaks during direct (drip feed) DNC. After the CNC operator stops the flow of data, a small program is "punched" back to the DNC system to tell it to backup. The amount can be a given number of lines, a specific block number or a pre-set code in the CNC program (bookmark).

Communication Features

Simultaneous Communication up to 128 Ports

Simultaneous communication sessions with up to 128 CNC machines from a single PC at speeds of up to 230,400 baud.

"Star" or "Hub" DNC network configuration

The DNC network can either be set up in a "Star" or a "Hub" configuration. In a Star, each CNC is connected directly to the central DNC computer eliminating manual or electronic switches. A Hub minimizes serial cable distances by using Ethernet to a central location on the shop floor.

Client-Server Architecture

Option that allows multiple DNC Clients to control one or more DNC Servers over a TCP/IP network. Any file can be sent to any Control at any time even from the shop floor.

Ethernet-based Hardware

Ethernet-based hubs, mounted on the shop floor with from 4 to 64 RS-232 per Hub are used. The advantages are shorter RS-232 cabling and centralized network management. Multiple hubs can be used for large shop installations.

Easy connections to LAN's and UNIX systems

NetDNC can be connected over PC-LAN networks such as Windows NT or Novell NetWare to support larger installations. Direct connection to UNIX systems is over TCP/IP.

Safe Start

Allows the DNC operator to start a program from any point in the file. i.e., tool breakage. Restart can be accomplished in 4 separate ways to give CNC operators the maximum amount of flexibility.

New Sending Options

From the Manual Sending screen, you can now set a Block Skip switch to skip lines that begin with the Block Delete character, and a Single Block switch that will allow you to send one block at a time.



Editor Features

3D Backplotting

Displays CNC code and graphic wireframe tool path. Both are active and automatically linked together. If the CNC program is edited the picture automatically updates ! Graphics are supported using OpenGL standards with dynamic zoom, pan, and rotate. Partial toolpaths can be easily shown with a slider control to lessen the complexity of wireframe graphics. Rapid moves are shown as dashed lines and each tool shows as a different color.

Online Help

Context sensitive help is available throughout the DNC system. The 200-page NetDNC User Guide is provided in an on-line form using Adobe Acrobat Reader.

Virtual Memory Editor

Very large CNC code programs can be edited using virtual memory. An 8 MB CNC program (450,000 lines) is loaded and ready to edit in 5 seconds.

Standard Windows Layout

The Editor uses all of the standard Windows interface functions making it easy to learn and use. Specialized functions for editing CNC code have been added such as 3-D Backplotting, Renumbering, and Colorizing

Auto Spacing

Auto Spacing inserts spaces between CNC code "words" for easier editing. Quickly add spaces back into CNC programs received from machine tools that typically strip all spaces on output.

File Compare

Engineered to make the tedious process of comparing "Changed " files uploaded from the CNC control with their "Original" files on the DNC system much easier! Green lines show that lines match exactly, Red lines indicate changes, Yellow lines show changed Comments, and Gray lines show lines that are inserted or deleted.

The Main Menu

The main menu screen clearly shows the current status of all machines. Colors are used to allow for quick identification of machines being loaded, idle or running.

Global Search and Replace

Global Search and Replace allows you to easily change selected or all occurrences of a single code within a file, such as feed rates, tool numbers and speed codes.

Re-Number

Allows you to re-sequence the entire file or just a blocked section of code. You can also renumber by a user-defined increment (1,5,10 etc.) and if needed it can wrap around at N9999 and start again at N1.

Projects

Allows the linking of multiple CNC programs and other documents together to manage large jobs effectively. Besides CNC programs, Projects can also include .RTF files with embedded graphics.

Graphical Cut and Paste

Multiple files can be open in The Editor concurrently, and graphical Cut and Paste easily swaps blocks of CNC code between the open files.

