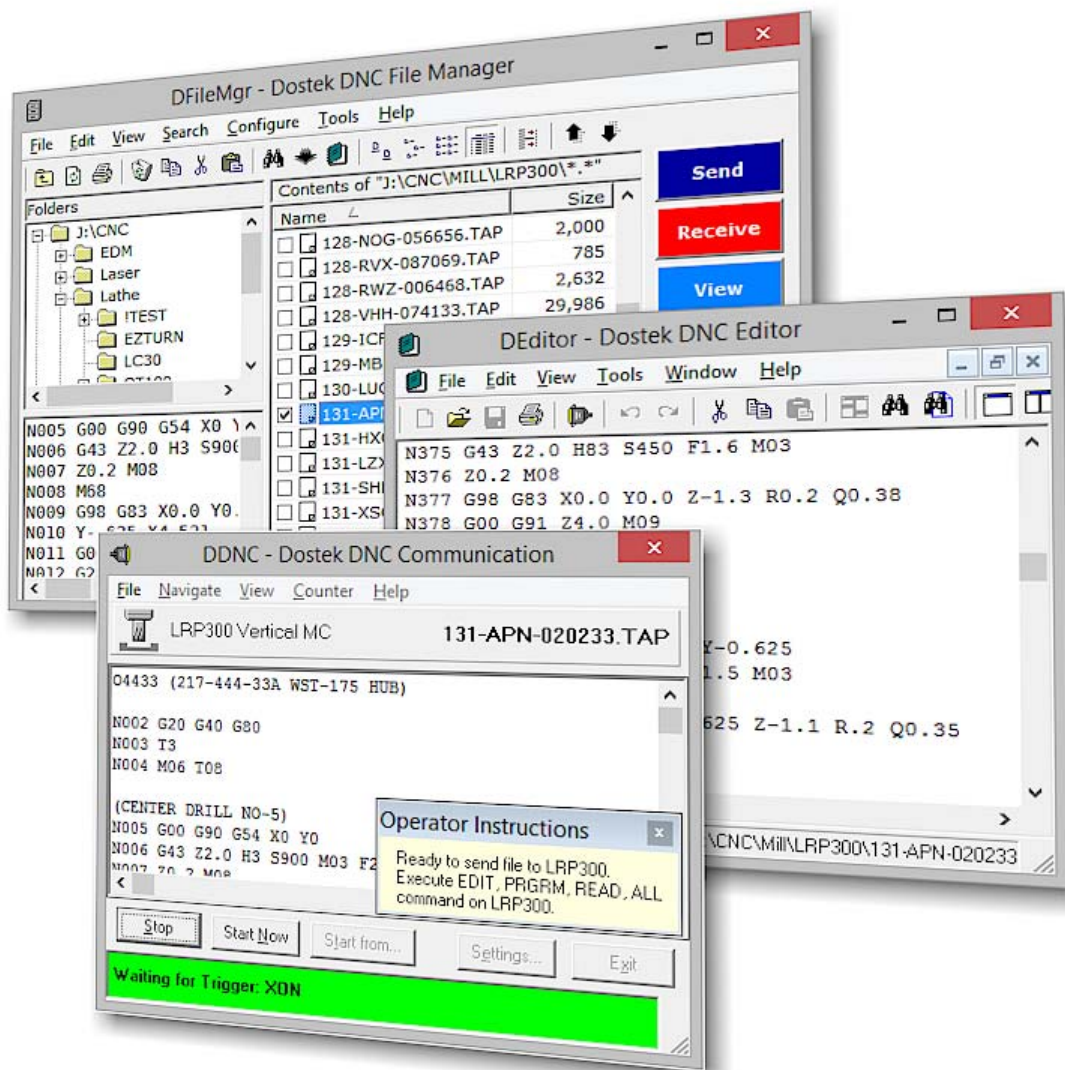


# Dostek DNC™

Version 15

*CNC communication, program editing  
and file management software  
for Windows™*

## User Guide





**SOFTWARE LICENSED TO**

The enclosed 3-inch mini CD is compatible with most computer CD-ROM drives. Place the disk in the indent in the center of the CD tray. If your CD drive is not compatible with mini CDs, use another computer to copy the mini CD to a regular CD, DVD or network folder.

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**Appendix A - Downloading Dostek DNC**

**Appendix B - Removing Dostek DNC**

**Appendix C - File Locations**

**Appendix D - Security**

# Dostek DNC V15 - User Guide

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This guide explains how to install, configure and use Dostek DNC software Version 15.

Dostek DNC is a suite of applications that work together to let you manage and edit files, and transfer data between your computer and CNC machine tools.

With Dostek DNC, you can:

- Transfer programs and data between a Windows computer and CNC machine tools.
- Upload, download, and drip feed with data transfer rates up to 38,400 baud.
- Edit files, including: copy and paste, search and replace, reformat and renumber.
- Manage files, including: view, search, copy, rename, filter, and delete.
- Configure communication parameters and protocols to work with virtually any CNC machine equipped with an RS-232C serial port.
- Configure security and logging to control access and track activity.
- Work with standard Windows PCs (Windows XP through Windows 10).
- Work with multi-port serial cards and hubs (Ethernet and USB, wired and wireless).

## **Additional Resources**

For information about additional resources, including help documents, application notes and technical support, see Section 9.5, "Getting Help."

# **1 Installing Dostek DNC**

This section explains:

- Installing Dostek DNC software (Section 1.1)
- Installing Dostek DNC software license key (Section 1.2)
- Understanding your Dostek DNC software license (Section 1.3)

To ensure success, prepare your files, COM ports and cables before you begin installing Dostek DNC:

## **Upgrading or moving Dostek DNC?**

If you are updating, replacing or moving existing Dostek DNC software, make a new backup copy of your existing Dostek DNC configuration files. You can use your existing files with a new computer or software version. For detailed instructions, see Section 4.4, "Backing Up Configuration Data."

## **Organize your CNC part program files.**

Determine the location of your CNC part program files. Dostek DNC can access files on the computer's hard drive, removable media, or a shared network folder. Dostek DNC Setup Wizard lets you choose a folder. You can add more folders later. If you don't have an existing folder, the Wizard suggests one for you.

## **Itemize your CNC machine tools.**

Make a list of control models you will use with Dostek DNC. This is the model of the control, not the machine. Dostek DNC Setup Wizard asks you to pick from a list of more than 100 sample configurations. You can choose more later.

## **Install and itemize your Windows COM ports.**

Your computer needs at least one RS-232C serial COM port. If your computer does not have a built-in COM port, you must install one. If you plan to use remote DNC, you need a separate COM port for each CNC machine.

Dostek DNC works with any Windows COM port, including: built-in, plug-in, USB/serial or Ethernet/serial (wired or wireless). For information about recommended COM port products, visit [www.dostek.com/order](http://www.dostek.com/order) and click "Dostek DNC Application Guide and Price List."

If you are moving COM ports from a previous computer, visit the manufacturer's Web site to download the latest device driver software.

If you plan to move Dostek DNC configuration files from the previous computer, also make a list of each adapter and each port, the corresponding Windows COM port number, and the machine it is connected to. Windows may not assign the same COM port numbers on the new computer; you will need this information to update your configuration files.

## **Prepare your cables.**

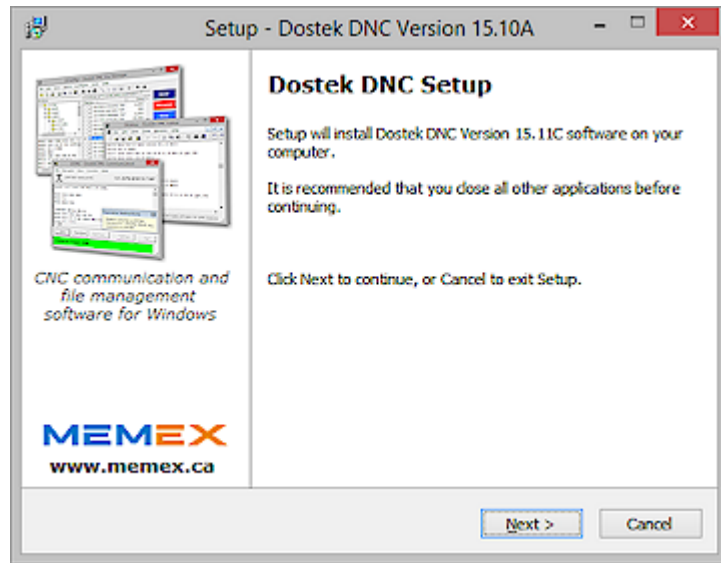
If you do not have existing cables connecting the CNC machines to your Windows COM ports, you can build or purchase cables. To build cables, see the "RS-232C Cables" help topic in Dostek DNC's "Communication Testing and Troubleshooting" help file. To purchase cables, contact Dostek. Many CNC models require a "cross-linked null modem" cable, which is not commonly available.



## 1.1 Installing Software

To install Dostek DNC:

1. Open Dostek DNC Setup.



The method for opening Setup depends on whether you are installing using a software CD or a software download file:

### **Software CD**

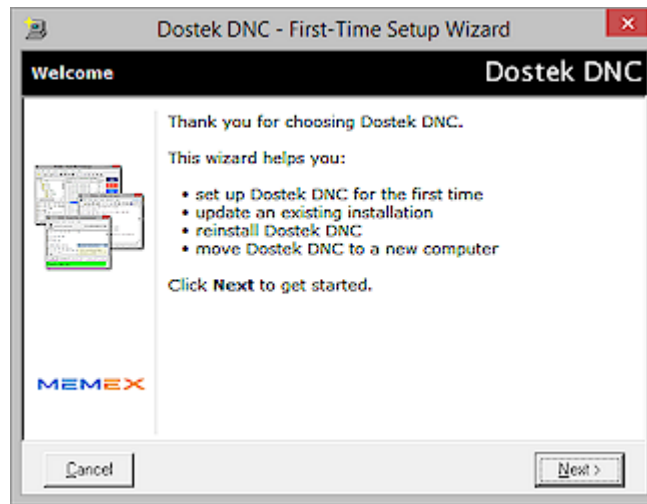
If you purchased the optional software CD and printed User Guide from Dostek, insert the software CD in your computer's CD drive. Setup opens automatically. If Setup fails to open automatically, use Windows Explorer to manually open Setup.exe. The software CD is packaged in a plastic sleeve inside the front cover of the printed User Guide.

### **Software Download File**

Open the software download file. The download file is named with the prefix "DDW" followed by a five-digit software version. For example, the file for version 15.10A is "DDW1510A.exe".

For more information about downloading Dostek DNC software, see "Appendix A - Downloading Dostek DNC."

2. Click **Next** to continue, and then follow the on-screen instructions to complete software installation. When finished, Setup automatically opens Dostek DNC First-Time Setup wizard.



Dostek DNC First-Time Setup Wizard guides you through:

- ✘ Installing your software license key.
  - ✘ Viewing the Getting Started Guide.
  - ✘ Setting up file locations and program shortcuts.
  - ✘ Selecting from the supplied sample CNC configurations.
  - ✘ Learning about backing up your data.
3. When the First-Time Setup wizard prompts you to "Choose setup mode," choose one of the following options:
    - ✘ If you are installing Dostek DNC for the first time, select **New Installation** and continue following the wizard's on-screen instructions.
    - ✘ If you are updating an existing, working, copy of the software, select **Keep existing configuration**.
    - ✘ If you are replacing a previous installation of Dostek DNC (to use a new computer, or to use the same computer after removing Dostek DNC), select **Load previously-saved configuration**.
  4. Follow the on-screen instructions to complete the Wizard. When the Wizard is finished, it automatically opens Dostek DNC Navigator.

## 1.2 Installing Your Software License Key

If you install Dostek DNC using the optional software CD, your software license key file is included on the disk and is installed automatically.

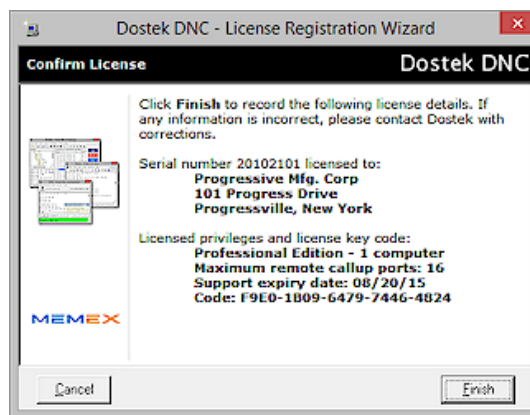
If you downloaded Dostek DNC, you received your software license key by email. You can install it automatically (recommended), or you can manually type in your license key data.

Dostek DNC must be installed on your computer before you install your license key.

### 1.2.1 Install Automatically (Recommended)

To automatically install your Dostek DNC software license key:

1. Open the license key file attached to the email message you received from Dostek. Dostek DNC License Registration Wizard opens automatically, and displays your license key data.



2. Confirm that your license details are correct, and then click **Finish**. If your name, address or license details are incorrect, contact Dostek to obtain a new license key.

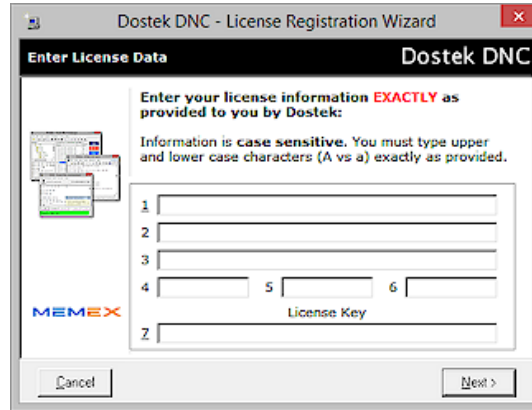
#### **Note:**

- › To automatically install your software license key on a computer that does not have access to your email, save the license key file to a portable media device (USB memory) or a shared network folder.

### 1.2.2 Install Manually

If you are unable to install your license key file automatically, you can install it manually:

1. On the Windows **Start** menu, point to **All programs**. The Windows programs menu opens.
2. Point to **Dostek DNC**, and then click **Install new license key**. Dostek DNC License Registration Wizard window opens.



3. Type your license key data provided in the email message you received from Dostek. You must type the data **EXACTLY AS SHOWN**, including punctuation and upper/lower case letters.

**Notes:**

- > Your license key text includes 7 items, and looks something like this:
  - (1) Company name
  - (2) Street address
  - (3) City, State
  - (4) 20123867 (5) EPZLFWLL (6) 41533
  - (7) F5D0-D205-902B-30C2-4493
- > Items (4) and (6) are all numbers.
- > Item (5) is all uppercase letters.
- > Item (7) contains numbers 0-9 and letters A-F only.
- > Omit the printed item number when typing license data. For example, type "Company name", not "(1) Company name".

4. Click **Next**. The Wizard displays your license key data.
5. Confirm that your license details are correct, and then click **Finish**. If your name, address or license details are incorrect, contact Dostek to obtain a new license key.

### 1.3 Understanding Your Dostek DNC Software License

To view your current Dostek DNC software license status:

- Click **About** in Dostek DNC's **Help** menu. The "About" window opens, and displays the software edition and number of seats and COM ports licensed.

To view the Dostek DNC software license agreement, choose either of the following methods:

- Click **License** in the "About" window.
- Open Dostek DNC Navigator, and then click **License** in the "Introduction" tab.

Your Dostek DNC software license key includes the following information:

- Company name and address. Your company name is displayed in the title bar of Dostek DNC windows.
- Number of computers licensed. Purchase an additional license for each additional computer.
- Support expiry date. Free software updates and limited support are provided until your support expires. Thereafter, you can purchase support, one-time software update, or an annual support subscription.
- License type:
  - Standard. License never expires (see item 1 below).
  - Trial. Expires after the trial period (usually 30 days).
  - Demo. Dealer demonstration license. Must be renewed annually.

The terms and conditions of your software license include:

1. Your standard Dostek DNC software license key never expires. You can use the software version you purchased forever. However:
  - Software updates are free for one year from the date of purchase. Thereafter, you must either purchase an update or annual support subscription to obtain a newer software version.
  - Your license does not entitle you to free replacement. You are responsible for making backup copies of your Dostek DNC software CD and software download files. Only the current software version is available from Dostek. If you lose your Dostek DNC software, you must purchase a software update to obtain the current version. For more information, see Section 8, "Protecting your Investment."
2. You may use Dostek DNC software on the number of computers specified by your software license key. To use Dostek DNC on additional computers, contact Dostek to purchase additional software licenses.
3. Purchasing an additional license (for an additional computer) does not include a software update.
4. You are permitted to install your Dostek DNC software on one spare computer for backup or testing purposes only (for example: to permit you to quickly replace your primary computer if it stops working).

## 2 Dostek DNC Components

Dostek DNC includes the software components listed in the table and described briefly on the following pages:

<b>Dostek DNC Software Components</b>	
DDNav	Dostek DNC Navigator
DFileMgr	Dostek DNC File Manager
DEditor	Dostek DNC Editor
DDNC	Dostek DNC Communication
DRemote / DMComm	Dostek DNC Remote Server
DConfig	Dostek DNC Configuration
DTouchDNC	Dostek Touch DNC
DTerminal	Dostek DNC Com Test Terminal
DWizard	Dostek DNC Setup/License Wizard
DLinkMgr	Dostek DNC Shortcut Manager
DLogView	Dostek DNC Event Log Viewer Wizard
DBasicUI	Dostek DNC Basic User Interface
DJobMgr	Dostek DNC Job Manager
DFilter	Dostek DNC File Filter
DRename	Dostek DNC File Rename
DFixFiles	Dostek DNC Fix Files
DViewTape	Dostek DNC View Tape
DFileChk	Dostek DNC File Checker
DComponentVersionInfo	Dostek DNC Component Version Information

## Navigator (DDNav)

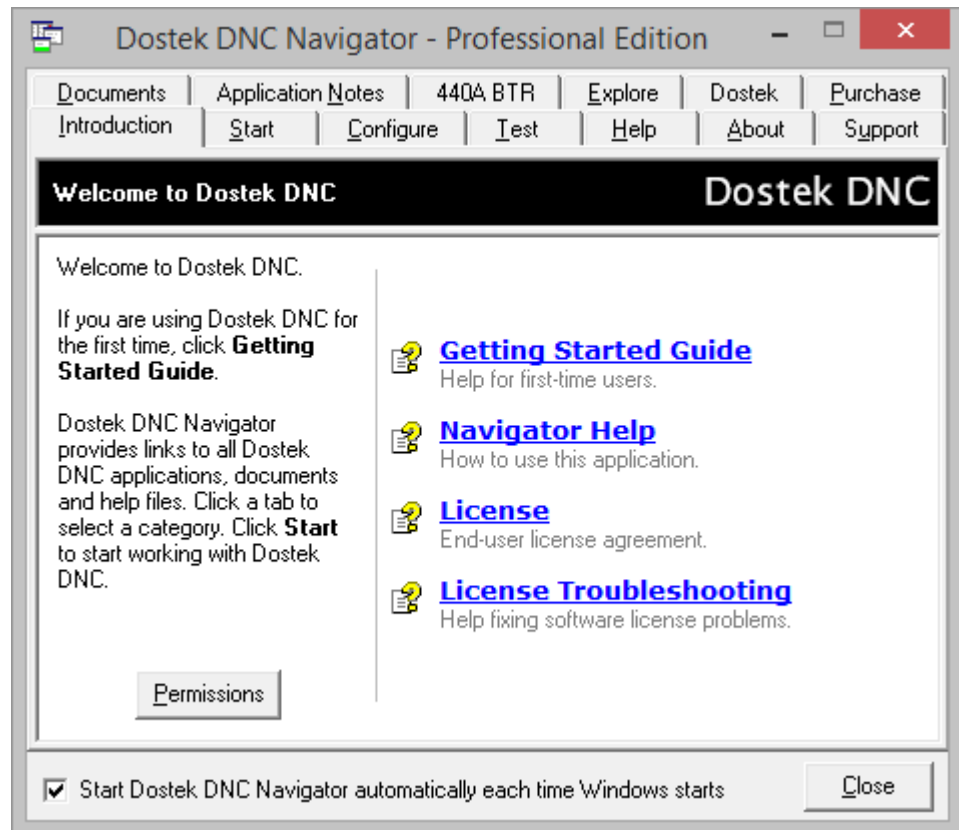


Dostek DNC Navigator provides links to Dostek DNC applications, documents, help files, and more. Links are categorized by tabs so you can quickly find what you need.

To use navigator:

1. Select a category by clicking a tab.
2. Click a link to open an application, document, help topic or Web page.

To guide new users, Navigator starts automatically each time Windows starts. You can clear "Start Dostek DNC Navigator automatically..." when you become familiar with the software.



**File Manager (DFileMgr)**

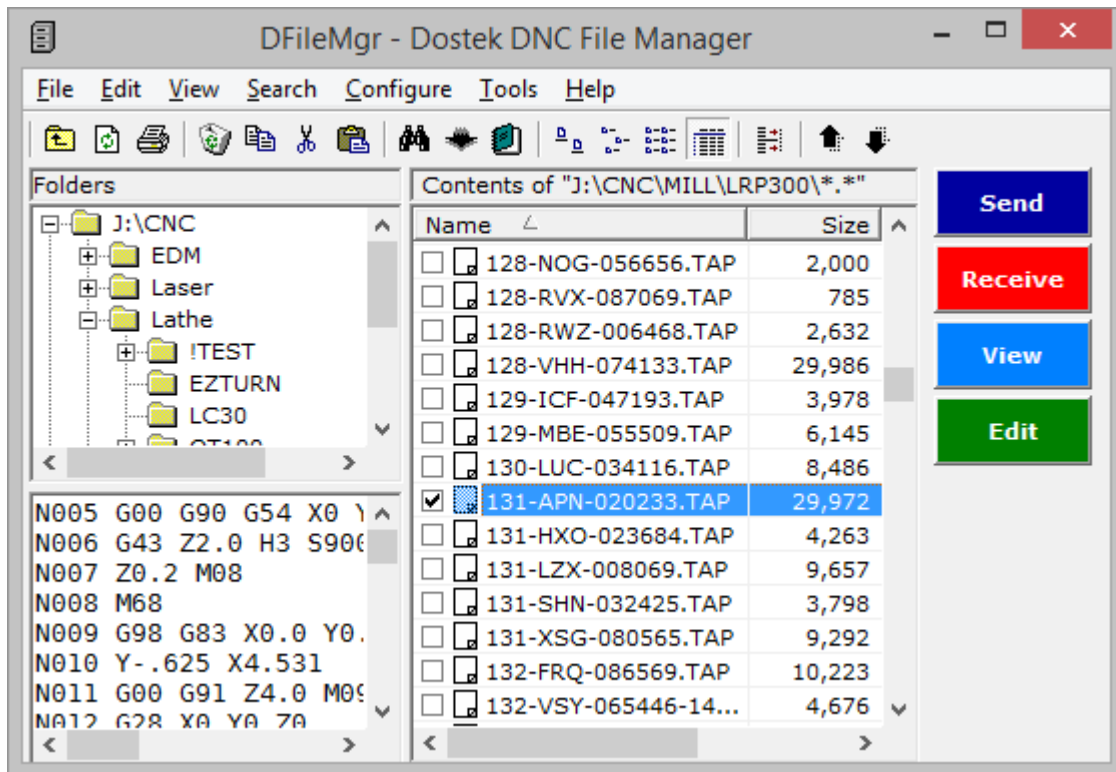


Dostek DNC File Manager has the familiar look and feel of classic Windows Explorer, but is easier to use and provides many enhancements and security features. With File Manager, you can:

- Organize your files.
- Browse folders and select files.
- View, print, copy, rename and delete files.
- Restrict access to specific folders and file types. You can include folders on the computer's hard drive, a network drive or removable media.
- Customize viewing preferences and command buttons.

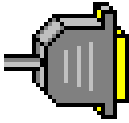
The File Manager window provides the following controls:

- Menu bar immediately below the window title bar.
- Toolbar with icons for frequently-used commands below the menu.
- Folder window, file window, and file preview window. You can drag the divider between the folder and file window to change the window sizes.
- Status panel at the bottom to display file information.
- Customizable shortcut buttons.



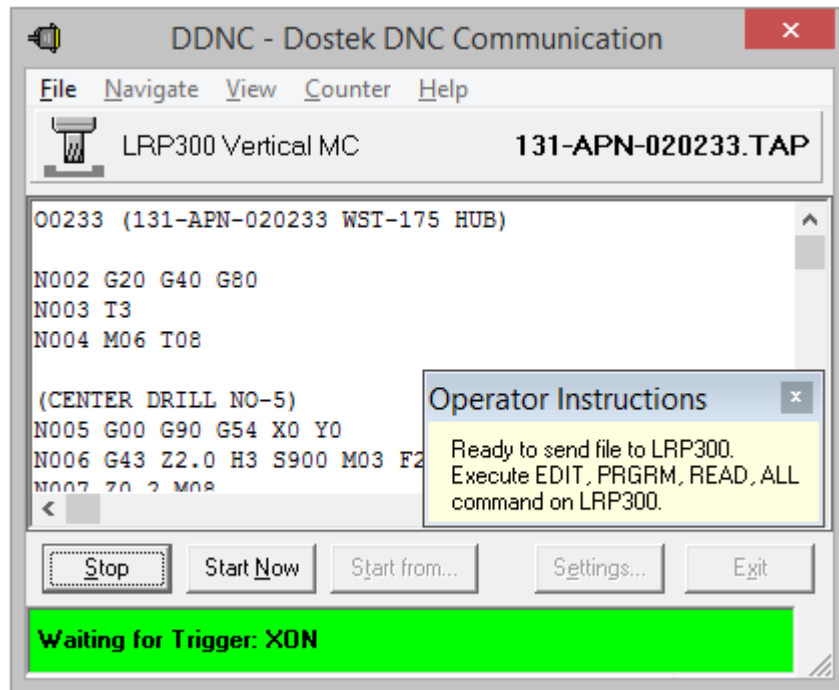


### Communication (DDNC)

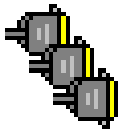


Dostek DNC Communication transfers files between the computer and CNC machine tools. With Dostek DNC Communication, you can:

- Load, save and drip feed with transfer rates up to 38,400 baud.
- Stop, start, repeat, or restart anywhere in the file when drip-feeding.
- Automatically store received programs according to the program name or part number.
- Automatically select a machine configuration according to the current folder.
- Display customized on-screen operator instructions.



**Dostek DNC Remote Server (DRemote, DMComm)**

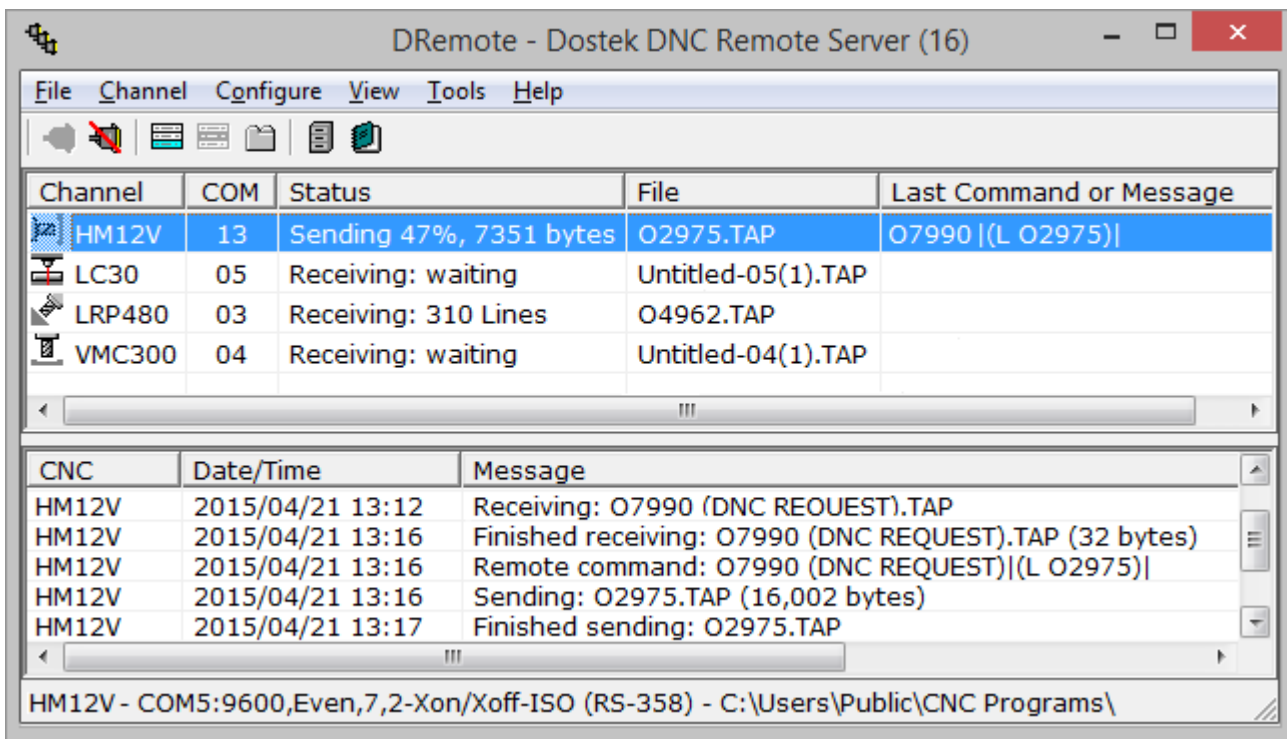


Dostek DNC Remote Server lets you use remote call-up methods to transfer files to multiple CNC machines. With Dostek DNC Remote Server, you can:

- Simultaneously upload, download and drip feed up to 64 CNC machines (depending on software license).
- Remotely call up programs directly from the CNC; there is no need to walk to the computer.
- Remotely print files and search directories.

Dostek DNC Remote Server consists of two components:

- DRemote (user interface). DRemote provides a split window showing a list of machines in the top window and event log messages in the bottom window.
- DMComm (communication server). Starts automatically with DRemote, then runs in the background to handle CNC communication.

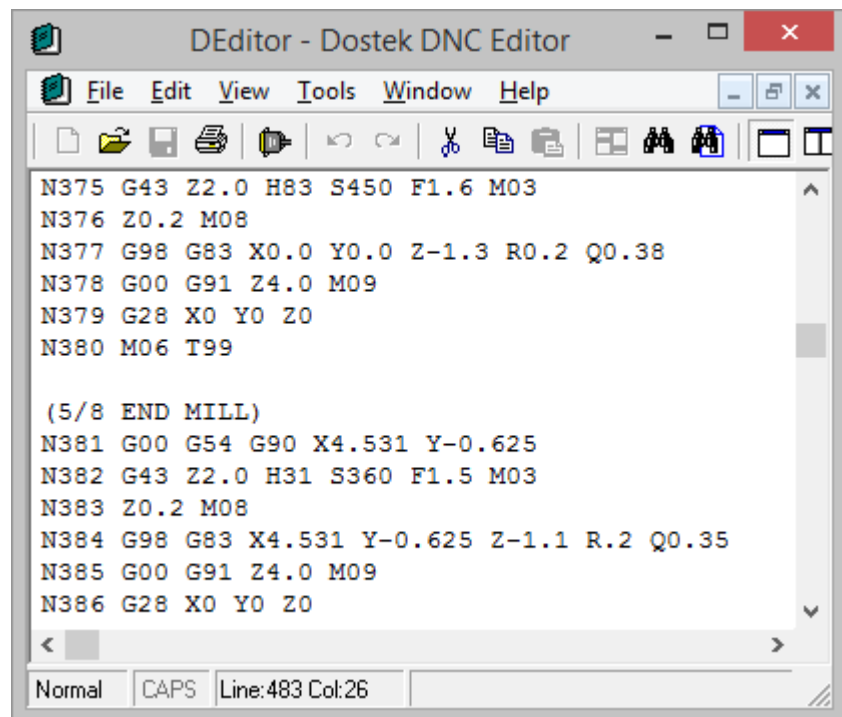


### **Editor (DEditor)**



Dostek DNC includes a multiple-document editor for CNC part programs and text files. With Dostek DNC Editor, you can:

- Open multiple files of virtually unlimited size.
- Copy text between files.
- Search and replace text.
- Undo and redo changes.
- Reformat CNC part programs (expand, compress, resequence and reformat numbers).

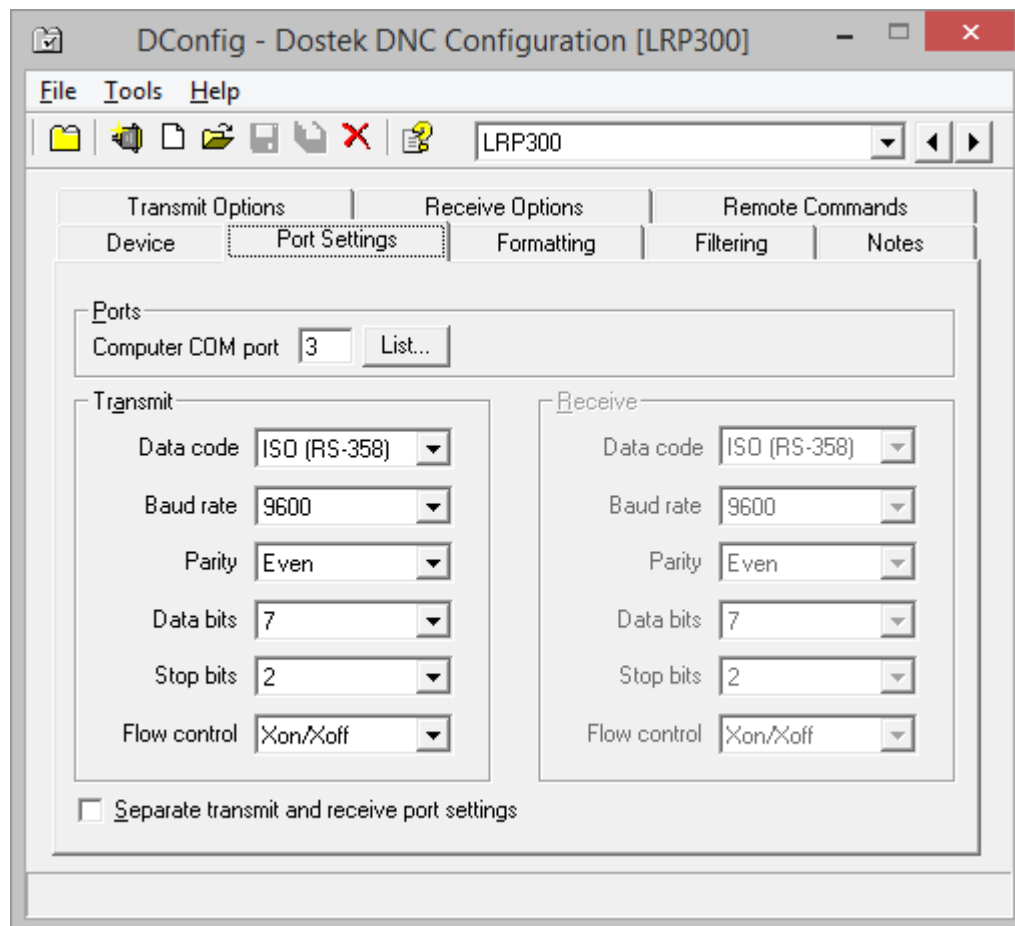


### Configuration (DConfig)



Dostek DNC Configuration lets you quickly configure software options and communication parameters. With Dostek DNC configuration, you can:

- Configure general settings including file locations, security settings and global options.
- Configure CNC communication settings including baud rate, parity and flow control options.
- Choose from sample configurations for more than 100 CNC models.
- Create a separate configuration for each CNC.
- View a detailed help page, with practical examples, for each configuration category.
- Record notes for each configuration.
- Use the New Device Setup Wizard to guide you through CNC communication configuration options.
- Use the Configuration Manager Wizard to quickly back up and restore configuration information.



## Dostek Touch DNC (DTouchDNC)



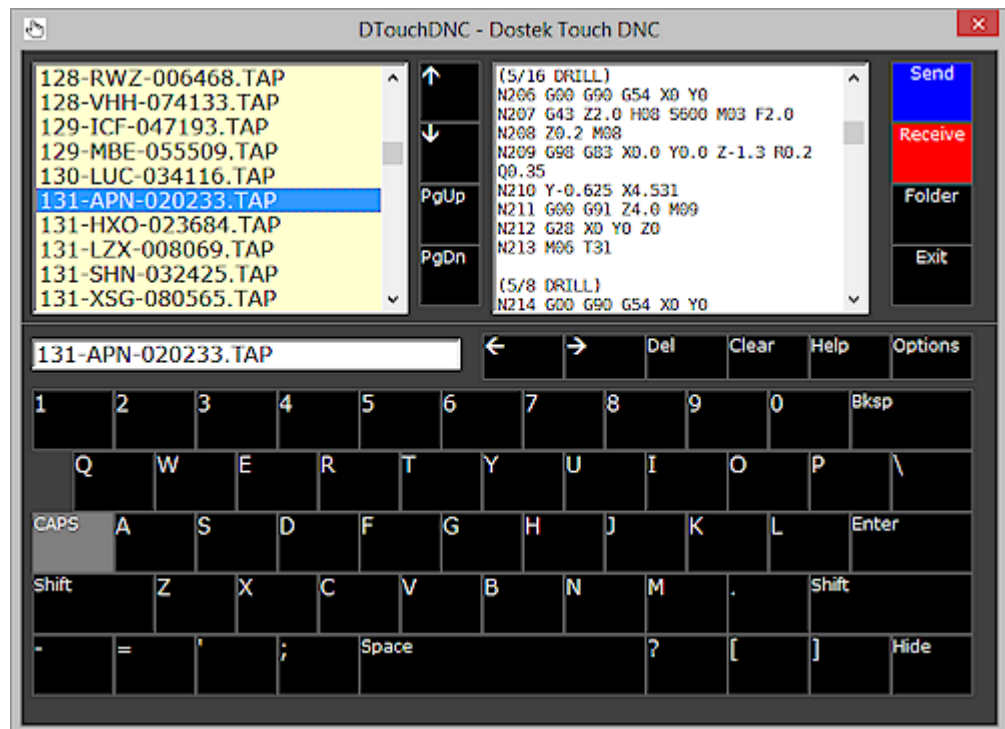
Dostek Touch DNC is a simplified user interface for touch-screen users.

With DTouchDNC, you can:

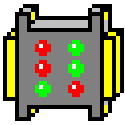
- Work with touch-screen computers and tablets.
- Browse and select a subfolder.
- Select a file by touch, or by typing a file name.
- Preview content of the selected file.
- Send or receive a file, opening the Dostek DNC Communication window.

DTouchDNC provides:

- A full on-screen touch keyboard you can hide when not needed.
- Large fonts and controls for convenient touch operation.
- A choice of three window sizes to accommodate a range of touch-screen and tablet devices.

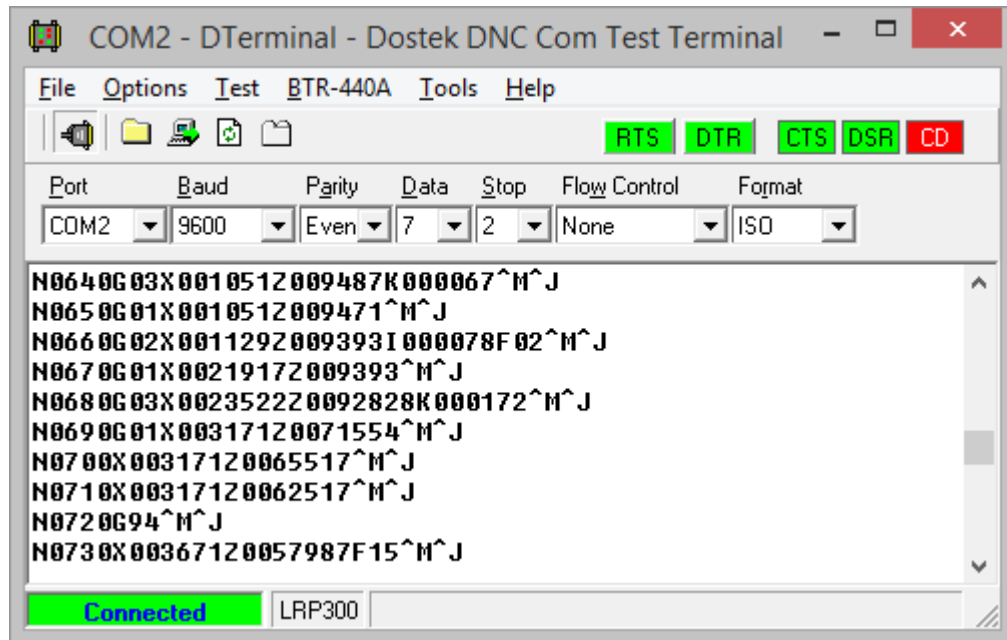


**Communication Test Terminal (DTerminal)**



Dostek Com Test Terminal (DTerminal) is a communication troubleshooting tool. With DTerminal, you can:

- Easily experiment with communication settings such as baud rate and parity.
- Display received data, including control characters that are not normally visible.
- Send data and control codes by typing on the keyboard or by sending data from a text file.
- Use ASCII, ISO, EIA-244 and hexadecimal data formats.
- Control and display COM port modem control signals (DTR, DSR, CTS, RTS and CD).
- Capture received data into a log file to examine, print or email.
- Test cables, COM ports and CNC RS-232 serial ports using a variety of methods including loopback tests and continuous test patterns.
- Analyze communication protocols.
- Enumerate available COM ports.
- Automatically detect CNC baud rate, parity and data bit settings.
- Control and test the Dostek Model 440A Behind-the-Tape Reader (BTR) interface.



### **More Dostek DNC Components**

To open an infrequently-used Dostek DNC software component that is not linked to the Windows Start menu:

1. Open Dostek DNC Navigator.
2. Select the **Start** tab, and then click **Application Launcher**.

Additional components include:

#### **DFilter - Dostek DNC File Filter**

DFilter reformats CNC programs in the following ways:

- Remove lines, comments, block numbers, spaces, and unprintable characters.
- Search and replace text.
- Convert end of line codes to Windows standard format.
- Convert text to upper case characters.

Use this utility program to clean up and convert files or to replace text strings in several files. Refer to Application Note AN05 - Using DFilter to Modify Files (available for download at the Dostek web site). You can use DFilter to modify all files in a folder, including sub-folders.

#### **DRename - Dostek DNC File Rename**

DRename renames groups of CNC programs or changes the file type (extension). Refer to Application Note *AN06 - Using DRename to Rename Files*.

#### **DFixFiles - Dostek DNC Fix Files**

DFixFiles fixes specific problems with the formatting of certain types of CNC programs. Refer to Dostek application note *AN29 - Using DFixFiles*.

#### **ViewTape - Dostek DNC View Tape**

ViewTape displays a data file in a format resembling a punched tape. ViewTape displays data in decimal, hexadecimal, binary, punched tape and ASCII formats. Use ViewTape to compare a data file with an actual punched tape when copying or transcribing tapes to disk files.

#### **DFileChk - Dostek DNC File Checker**

DFileChk scans specified files to identify those incompatible with Windows. Files transferred from non-Windows systems or created by some applications may not be compatible with Windows. Incompatible files can cause problems when editing or sending to the CNC.

#### **DComponentVersionInfo - Dostek DNC Component Version Information**

DComponentVersionInfo displays the current version of each software component used by Dostek DNC. Use when directed by Dostek technical support.

## 3 Getting Started with Dostek DNC

This section explains how to get started using Dostek DNC.

### 3.1 Opening Dostek DNC Windows

You can open Dostek DNC windows using several methods, including:

- In the Windows **Start, All programs** menu, point to **Dostek DNC** and click an item in the menu.
- Click a shortcut icon you create on the Windows Desktop, Windows Start Menu or Windows Quick Launch Bar. To create shortcuts, you can drag and drop shortcuts from the **All programs, Dostek DNC** menu, or you can click **Shortcut Manager** in Dostek DNC Configuration's **Tools** menu.
- Click a link in the "Start" or "Configure" tab in Dostek DNC Navigator.
- Click a shortcut in another Dostek DNC window's menu or toolbar.

#### 3.1.1 About Multi-Tasking

Dostek DNC's modular design means you can simultaneously open multiple windows. For example, you can have the File Manager, Editor and Communication windows all open at the same time.

Commands in each window can open other windows. For example, when you click **Send** or **Configure** in Dostek DNC File Manager, the Dostek DNC Communication or Dostek DNC Configuration window opens.

To switch between open windows, click an icon in the Windows taskbar or press Alt+Tab.

#### 3.1.2 About Single or Multiple Instances

You can only open one copy (instance) of most Dostek DNC components. If you try to open a new copy of a window that is already open, the existing window automatically pops to the top.

You can open multiple instances of the Communication window, but each instance must use a different communication port. This way, you can drip feed to more than one CNC at the same time.



### 3.2 Getting Started

This section provides an overview of the recommended steps for getting started with Dostek DNC.

To get started with Dostek DNC:

1. Organize your files and prepare your COM ports and cables. For details, review the recommendations on page 2 ("Installing Dostek DNC").
2. Open Dostek DNC File Manager (DFileMgr). If you did not specify a root folder in the First-Time Setup Wizard, click **Root folders** in the **Configure** menu to select one or more folders containing your CNC part program files.
3. Click **Communication (CNC) settings** in File Manager's **Configure** menu. Dostek DNC Configuration (DConfig) opens.
  - a) If you did not select a sample CNC configuration in the First-Time Setup Wizard, click **Import sample configuration** in DConfig's **File** menu, and select a sample configuration. Samples are provided for more than 100 CNC models. For more information about using sample configurations, see Section 4.2, "Using Sample CNC Configurations."
  - b) Select the "Notes" tab, and read carefully. Samples may include recommended CNC parameter settings, special cable requirements, and operational notes.
  - c) Select the "Port Settings" tab, and configure the Computer COM port to select the port you plan to use, and configure the baud rate to match the CNC baud rate.

For more information, see Section 4.1, "Configuring CNC Communication Settings."

#### **Tip:**

- > If you organize part program files for each CNC machine into separate folders, and name your folders and CNC configurations with the same names, Dostek DNC can automatically select the correct CNC configuration when you click Send or Receive. For details, see "Communication Options" in Section 4.2.3, "General Configuration Highlights."
4. Test communication with each CNC:
    - a) Send a file from the CNC to the computer first (click **Receive** in DFileMgr). This is the easiest way to confirm that you are using the correct cable and COM port, and that the CNC baud rate matches the Dostek DNC baud rate.
    - b) Ensure received files are named according to your preference.
    - c) Next, send a file from the computer to the CNC.

If you encounter a problem receiving or sending a file:

- a) Point to **Help topics** in File Manager's **Help** menu, and then click **Communication testing**.
  - b) Click **Problem Index** in the "Contents" tab, and then find the help topic that best describes the symptoms. If you are unable to find a solution, contact Dostek.
5. To use Dostek DNC Remote Server (DRemote), it is important to first complete the previous steps. When you open DRemote for the first time, a help window opens. Take a few minutes to read each help topic.

### 3.3 Using Classic or Remote DNC

You can use Dostek DNC for "classic" or "remote" DNC communication.

With classic DNC, you walk back and forth between the computer and CNC to transfer files.

With remote DNC, you can upload, download and drip-feed without leaving the CNC. There is no need to walk to the computer. You send commands to the computer using the CNC's control panel.

For classic communication, open Dostek DNC File Manager:

- On the Windows **All programs** menu, point to **Dostek DNC**, and then click **Dostek DNC File Manager**.

For remote communication, open Dostek DNC Remote Server:

- On the Windows **All programs** menu, point to **Dostek DNC**, and then click **Dostek DNC Remote Server**.

#### **Notes:**

- > Before you use classic DNC, you must first create one or more CNC configurations.
- > Before you use remote DNC, create a separate configuration for each CNC, and test communication using classic DNC.
- > To open Dostek DNC File Manager or Remote Server automatically each time the computer starts, copy the shortcut from the Windows All Programs menu to the Windows "All Programs\Startup" folder.

## 4 Configuring Dostek DNC



This section explains how to configure Dostek DNC settings and preferences, and how to save time by using sample CNC configurations.

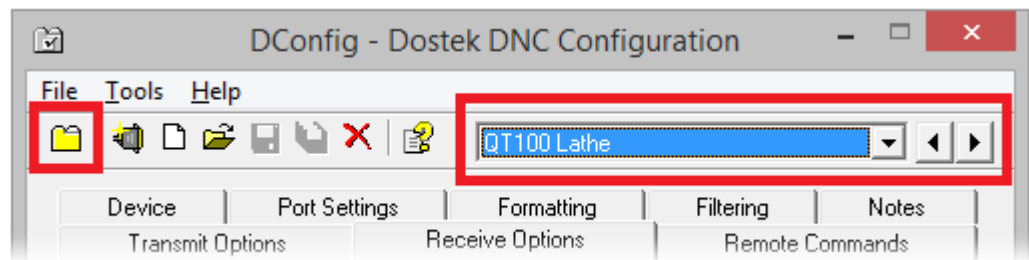
Dostek DNC provides three types of configuration settings:

- CNC communication settings (baud rate, flow control, etc.)
- General settings (security, file types, documents, event logging, etc.)
- Component-specific settings (fonts, view options, etc.)

### 4.1 Configuring CNC Communication Settings

To use Dostek DNC Configuration (DConfig) to configure CNC communication settings:

- Click **Configure devices (CNCs)** in File Manager's **Configure** menu. Dostek DNC Configuration (DConfig) window.



Settings are organized by "tabs" to make it easy to find the setting you need. Detailed help is provided for each tab. To learn about settings for a particular tab, click **Help** in the **Help** menu, or click the Help icon in the toolbar.



When configuring CNC settings, DConfig makes it easy to navigate between multiple configurations without the need to close and reopen windows. You can:

- Select a configuration in the drop-down list.
- Click the left or right arrow next to the drop-down list.
- Press the F2 or F3 key on your keyboard to select the previous or next configuration.

This feature lets you select a tab and then quickly scan the same settings in your other CNC configurations.

#### **Notes:**

- > To change between general settings and CNC settings, click the "Tab" icon at the far left of the toolbar.
- > You can also open Dostek DNC Configuration from the Configuration tab in Dostek DNC Navigator, from the Windows Start menu, or from the Tools menu in many Dostek DNC windows.

#### 4.1.1 Using Sample CNC Configurations

Sample device configuration files are provided for more than 100 CNC models. To use a sample configuration:

1. Click **Import sample configuration** in DConfig's **File** menu. The Sample Import Wizard opens.
2. Follow the on-screen instructions to import the configuration.

#### **Note:**

- › Each sample configuration includes a "Notes" tab. Carefully read the information provided in this tab. Information can include recommended CNC parameter settings, operational notes and special cable wiring. Using sample configurations dramatically reduces the time it takes to get started.

#### 4.1.2 CNC Configuration Highlights

CNC configuration settings are organized in several tabs. This section describes a few commonly-used settings. For detailed information and examples, select a tab and then click **Help** in DConfig's **Help** menu.

##### Device Tab

You can:

- Specify an IP address. If you are using Ethernet/serial adapters with static IP addresses, include the IP address for each configuration's COM port on the "Device" tab. When you include an IP address, DRemote and DTerminal include convenient commands to ping the IP address or open the adapter's Web console.
- Select an icon. Icons are provided for a variety of machine types (lathe, horizontal and vertical machining centres, etc.).
- Enter a useful description, such as the control mode ("Fanuc 18Ti"). Or, if you use multiple-port serial hubs, you could include a comment identifying which hub and port ("H3P4") the configuration uses. Dostek DNC displays the comment in certain windows, and includes it in configuration lists.
- Click **List all configurations** in DConfig's **File** menu to view a sorted list of all CNC configurations. To sort the list, click a column heading. You can copy the list to a spreadsheet or text file using the Windows Clipboard.

##### Port Settings Tab

You can:

- Configure **Computer COM** port to match the port the CNC is connected to. Click **List** to view a list of available COM ports.
- Configure the baud rate to match the CNC baud rate setting.

#### **Note:**

- › When using a sample CNC configuration, do not modify the remaining settings.
- › ISO, Even, 7, 2 and Xon/Xoff are best for most modern CNCs.

### Transmit Options Tab

You can:

- Configure **Transmit trigger** to "Xon" to automatically start sending when you press Read or Input on the CNC. Using a trigger lets you prepare the computer first, then walk to the CNC machine.
- Select **Skip header to** or **Skip trailer from** to skip over comments at the start or end of your part program files.

With "classic" DNC, you can also:

- Configure **Transmit trigger** to "None" to send immediately, or to "Manual" to send when you click **Start now**.
- Configure **Repeat mode** to automatically re-send the program from the beginning when the end is reached. Choose this option to drip-feed the same program multiple times.
- Select **Pause between files** to require the operator to press Read or Input to load each file when loading multiple files.
- Enter a message (instructions) to appear on the screen when sending a file to the CNC machine.

### Receive Options Tab

You can:

- Configure automatic file naming for received files. Dostek DNC can automatically name files according to the program number, or according to a comment included in the first line of the file (part number, description, etc.).
- Specify a file extension (type) for received files. When specified, Dostek DNC automatically applies the extension to all received files. When using remote DNC, this also becomes the default extension when searching for requested files.
- Specify a prefix or suffix to apply to all received files. Use this feature to prevent overwriting original files or to distinguish received files so they are easy to find. For example:
  - Specify a prefix of "!" so all received files appear at the start of the file list in File Manager or Windows Explorer.
  - Specify a suffix so received files and original files appear together in File Manager or Windows Explorer.
  - Specify a machine mnemonic to identify the machine from which a file was received. For example, specifying "VMC75-" names received files as "VMC75-1234".

With "classic" DNC, you can also:

- Enter a message (instructions) to appear on the screen when receiving a file from the CNC machine.

### Remote Commands Tab

If you use Dostek DNC remote server (DRemote), you can customize the command format to suit your preferences. View the help topic for detailed examples.

### Notes Tab

Dostek DNC sample configurations can include recommended CNC parameter settings, operational notes and cable wiring in the Notes tab.

You can also type your own notes.

## 4.2 Configuring General Settings

To use Dostek DNC Configuration (DConfig) to change general settings:

- Click **Configure Dostek DNC** in File Manager's **Configure** menu.



Settings are organized by "tabs" to make it easy to find the setting you need. Detailed help is provided for each tab. To learn about settings for a particular tab, click **Help** in the **Help** menu, or click the Help icon in the toolbar.

### **Notes:**

- > To change between general settings and CNC settings, click the "Tab" icon at the far left of the toolbar.
- > You can also open Dostek DNC Configuration from the Configuration tab in Dostek DNC Navigator, from the Windows Start menu, or from the Tools menu in many Dostek DNC windows.

### 4.2.1 General Configuration Highlights

Dostek DNC configuration settings are organized in several tabs. This section describes a few commonly-used settings on each tab. For a detailed information and examples, select a tab and then click **Help** in DConfig's **Help** menu.

#### Folders Tab

You can:

- Specify one or more root folders to restrict Dostek DNC access to specified folders. (See Section 4.3, "Configuring Root Folders")
- When you specify a receive folder, Dostek "classic" DNC can receive files to the specified folder only. This prevents users from overwriting files in other folders when receiving data from the CNC machines.

#### File Types Tab

You can optionally categorize file types to control how File Manager handles files:

- NC files can be edited or sent to the CNC.
- Document files (as well as Windows LNK shortcut files) are opened using the Windows registered default program. For example, PDF files are opened in Acrobat reader, and DWG files are usually opened in AutoCAD or a CAD file viewer.
- Binary files may be sent to the CNC, but may not be edited.
- Restricted files can not be used or modified.

#### Communication Options Tab

You can:

- Select "Match CNC Configuration To Folder" to automatically match the device configuration to the folder name. This feature can save time and prevent errors.
- Specify default receive file naming options. The CNC configuration overrides these settings. The default options apply only when the corresponding setting is blank in the CNC configuration.
- Set a high communication priority when drip-feeding, to ensure other Windows tasks do not interfere.

### Security Tab

You can disable (hide) all Dostek DNC commands that modify files or folders. For more information about Dostek DNC security features, see Appendix D, "Understanding Security."

### Documents Tab

You can configure Dostek DNC to search for documents related to a CNC part program file. When click **View related documents** in File Manager's **File** menu, File Manager searches for the types of documents you specify that match the name of the selected file. With this feature, you can quickly find related drawings, setup sheets or PDF documents.

### Event Log Tab

You can configure Dostek DNC to log specific events to a standard database file.

### Editor Tab

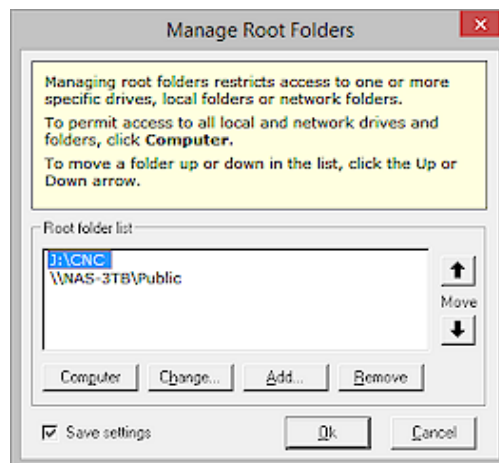
You can configure Dostek DNC to open an editor of your choice when **Edit** is clicked (replacing Dostek DNC Editor).

## 4.3 Configuring Root Folders

You can configure Dostek DNC to access one or more specific local or network folders, or your entire computer and network.

To configure root folders:

1. Click **Root folders** in Dostek DNC File Manager's **Configure** menu, or select the "Folders" tab in Dostek DNC Configuration (General), and click **Change**. The "Manage Root Folders" window opens, showing a list of all "root" folders currently configured.



2. Do one of the following:
  - ✘ Click **Computer** to provide access to the root folder of all local and network drives. Any other folders in the list are removed.
  - ✘ Click **Change** to replace a folder in the list with a different folder.
  - ✘ Click **Add** to add another folder to the list.
  - ✘ Click **Remove** to remove a folder from the list.
  - ✘ To rearrange the order of root folders, select a folder and then click the **Up** or **Down** "Move" button.

#### 4.4 Configuring File Manager, Editor and Remote Server Options

To change File Manager options and preferences, click **Options** in the **Configure** menu, and then do one of the following:

- Select the **View Preferences** tab to change display preferences.
- Select the **File Type Filters** tab to change the types of files that are displayed.
- Select the **QuickButtons** tab to add or change QuickButtons.
- Select the **Utilities** tab to add or change commands in the Utilities menu.

To change Editor options and preferences:

- Click **Preferences** in the **File** menu.
- Click **Page Setup** in Editor's **File** menu to change the page layout and font size used for printing.

To change Remote Server options:

- Click **Options**, **Special options** or **Event logging** in DRemote's Configure menu.

#### 4.5 Backing Up Configuration Data

To back up your configuration data, you can either:

- Click **Express Backup** in DConfig's **Tools** menu. Express Backup copies Dostek DNC's configuration files to a folder you specify.
- Click **Configuration Manager** in DConfig's **Tools** menu. Configuration Manager lets you manage multiple sets of configuration files, such as when Dostek DNC is installed on multiple computers.

#### **Important:**

- › Always make new backup copies of your configuration data each time you make a change to any setting.



## 5 Using "Classic" DNC Communication

With "classic" DNC, you walk back and forth between the computer and CNC to transfer files. You can initiate a transfer at the computer and complete it at the CNC. Data scrolls in the Communication window during the transfer.

You can:

- Send a file from the computer, and load it into the CNC's memory.
- Drip-feed a program directly from the computer.
- Receive a file from the CNC, and save it to a computer file.

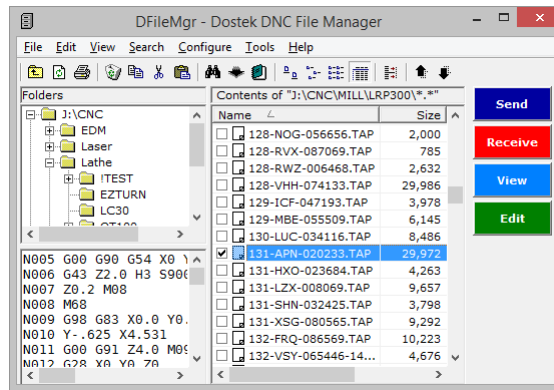
Dostek DNC is used the same way whether loading a file into the CNC's memory or drip-feeding the program directly. Only the CNC is used differently for drip-feeding. For example, with most Fanuc CNCs you select Program Edit mode and execute a Read or Input command to load a program into the CNC's memory, or you select Tape mode and press Cycle Start to drip-feed a program directly from the computer.

### 5.1 Sending a File to the CNC

Sending a file to the CNC (or drip-feeding a large file) is a simple 3-step process with Dostek DNC:

#### STEP 1 - Select a File

Open Dostek DNC File Manager. Folders are listed in the left window, and files in the right window. Select the file you wish to send or drip-feed to the CNC.



You can:

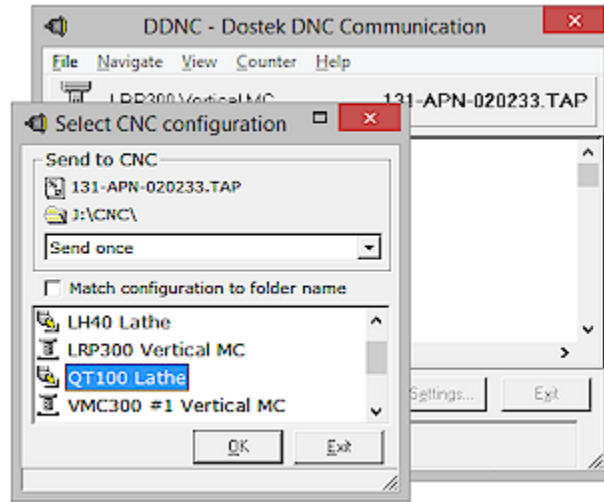
- Click **Search** or **Go to file** in File Manager's **Search** menu to find a file by typing a name.
- Select multiple files to send to the CNC together.
- Click [+] or [-] in File Manager's folder window to expand or collapse a folder tree.
- Click an icon in the toolbar or the View menu to choose from one of four file viewing formats.



For more information about selecting files, see Section 7.1, "Selecting Files and Folders."

**STEP 2 - Click "Send"**

Click **Send**. File Manager opens the Dostek DNC Communication window (DDNC) to send the file to the CNC.



If you created more than one CNC configuration file, DDNC "pops up" the "Select CNC configuration" window to let you pick a configuration.

The transfer continues according to your Dostek DNC configuration:

- In most cases, DDNC pauses and indicates "Waiting for trigger" in the status panel at the bottom of the window. If you selected "None" or "Manual" in "Transmit trigger" when configuring Dostek DNC, DDNC sends immediately, or waits for you to click **Start now**.
- If you are using a Dostek 440A Behind-the-Tape Reader (BTR), DDNC immediately starts sending to the 440A BTR, and the BTR stores the data in its memory. Progress is shown in the status panel at the bottom of the window. You don't need to wait for the transfer to finish; the CNC can start reading from the 440A BTR immediately.

**STEP 3 - Go to the CNC, and start a Load or Run transfer.**

Execute a read, load or run command on the CNC. The method varies with each CNC model.

For most Fanuc CNCs:

- To load a file into the CNC memory, select PROGRAM and EDIT modes, and then execute a "Read" or "Input" command.
- To run ("drip-feed") a program directly from the computer, select TAPE mode and then press CYCLE START. For more information about drip-feeding, see Section 5.3, "Drip-Feeding."

## 5.2 Receiving a File from the CNC

Receiving a part program file from the CNC is also easy:

1. In Dostek DNC File Manager, select a folder, and then click **Receive**. File Manager opens the Communication (DDNC) window to handle the transfer.
2. Go to the CNC, and execute a "Punch" or "Output" command. The received data scrolls in the DDNC window.

### **Notes:**

- > Dostek DNC automatically names received files according to the program number or description stored in the first line of the program. You can configure receive file naming to suit your preferences. For more information and detailed examples, open Dostek DNC Configuration (DConfig), select the "Receive Options" tab, and then click **Help** in DConfig's **Help** menu.
- > If you prefer to manually name received files, disable automatic file naming in DConfig's "Receive Options" tab. To temporarily override automatic naming, click **Stop** and then click **Choose configuration** in DDNC's **File** menu.
- > Dostek DNC can receive multiple files. For example, with most Fanuc CNCs you can type "O-9999" and then press Punch or Output to send all part program files to the computer. Dostek DNC stores each program in a separate file. If you prefer to store all part programs in a single file, select "Autoname-Single file" in the "Choose CNC Configuration" window.
- > To prevent CNC operators from overwriting original versions of part program files, you can:
  - Configure Dostek DNC to add a prefix or suffix to received file names. For example, you can configure Dostek DNC to name program "1234" as "!1234" or "1234#".
  - Configure Dostek DNC to allow receiving into only one specific folder (and its subfolders). Specify a folder in **Receive folder** in Dostek DNC Configuration's "Folders" tab ("General" settings).

### 5.3 Drip-Feeding Large Files

This section explains how drip-feeding works, and how to prepare the computer, the machine, and Dostek DNC to ensure reliable operation when drip-feeding.

Some CNC models do not allow drip-feeding. Some may require the purchase of optional hardware or software from the CNC manufacturer, or installation of a "Behind-the-Tape Reader "(BTR) such as the Dostek Model 440A BTR.

#### 5.3.1 Preparing the Computer

Configure the computer as follows:

- Disable all power-saving (hibernation) and screen-saving features. Allowing the computer to hibernate during a drip-feeding session will disrupt critical data communication between the computer and CNC.
- Secure your computer to prevent anyone from disturbing software operation. If the computer is disrupted, drip-feed operation will be affected.

#### 5.3.2 Preparing the CNC Machine

Always prepare the CNC before you start. Preparation varies with the type of CNC you are using. In general, for example:

- Clear the CNC read buffer. Ensure that no program blocks from the previous machining session remain in the CNC.
- Set the machine controls. For example, set the feed rate override to reduce speed and set the machine to "SINGLE BLOCK" mode so you can carefully monitor machine operation. Once you are confident the machine is running the program correctly, increase the feed rate and turn SINGLE BLOCK off.
- Manually execute any necessary preparatory functions or positioning.
- Update any required tool offsets or machining parameters.

##### About the Read Buffer

Most CNC machine tools "read ahead" one or more program blocks from the tape reader or serial port, and store the data in its "read buffer." When you stop the machine before it reaches the end of the program, the buffer may contain data. To run a different program, or restart the same program at a different position, be sure to clear the remaining data from the reader buffer. See your CNC operator manual for the required procedure.

#### 5.3.3 Configuring Dostek DNC for Drip-Feeding

To configure Dostek DNC for continuous drip-feeding:

1. Open Dostek DNC Configuration, and then select your configuration.
2. On the **Transmit Options** tab, choose **Continuous** in **Repeat Mode**.
3. If you are using a supplied sample configuration, skip ahead to step 6.
4. On the **Port Settings** tab, choose an appropriate flow control method in **Flow Control**. For successful drip-feeding, flow control must work properly. In most cases, choose "Xon/Xoff."
5. On the **Transmit Options** tab, choose an appropriate trigger method in **Transmit Trigger**. This setting determines how the computer knows when to start sending data to the CNC. In most cases, choose "Xon."
6. Click **Save**, and then **Exit**, in DConfig's **File** menu.

#### 5.3.4 How Drip-Feeding Works

When you command the CNC to start drip feeding, the CNC triggers the computer to start sending data. The CNC stores the data received from the computer into its "buffer."

When the CNC has read a certain amount of data, it signals the computer (using the selected "flow control" method) to stop sending. The amount of data the CNC reads depends on its design. Some CNCs read two or three blocks at a time, and others read dozens or hundreds of lines at a time.

When the CNC has executed most of the data read from the computer, it signals the computer to start sending again.

This process repeats until the entire program is executed.

If flow control does not work properly, Dostek DNC will send continuously without pausing, causing the CNC (if properly designed) to report an "overflow" alarm.

### 5.4 Restarting a Drip-Feed Session

To start a drip-feeding session, see Section 5.1, "Sending or Drip-Feeding."

When a problem occurs while drip-feeding, you can:

- Restart from the first line in the file (Section 5.4.1).
- Restart from a specific line in the file (Section 5.4.2).
- Restart from specific text in the file, using "Find text" (Section 5.4.3).

#### 5.4.1 Restarting from the First Line

To restart a drip-feeding session from the first line of the file:

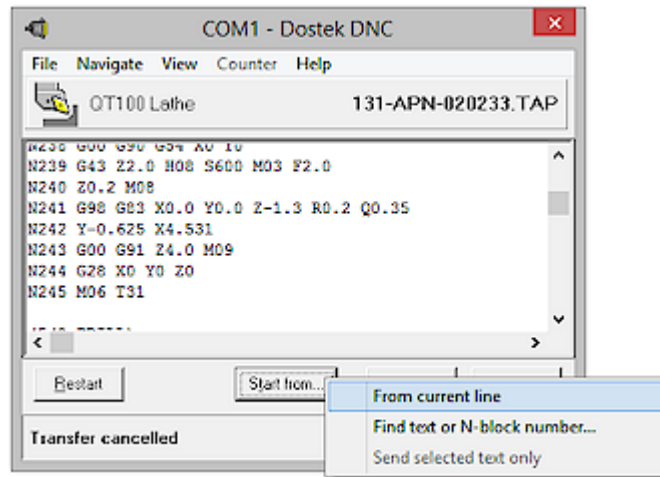
1. Stop the machine.
2. In Dostek DNC Communication, click **Stop**. Dostek DNC stops sending data, and displays "Transfer cancelled" in its status panel.
3. Click **Restart**. Dostek DNC prepares the file, and displays "Waiting for Trigger" in the status panel at the bottom of its window.
4. Prepare the CNC (see Section 5.2.2, "Preparing the CNC"). Ensure the CNC read buffer is empty.
5. Carefully start the machine. Single-step at a reduced feed rate until you are confident the program is executing properly. View the program data on the machine's display screen to ensure the correct program data is being fed from the computer.

#### 5.4.2 Restarting from a Specific Line

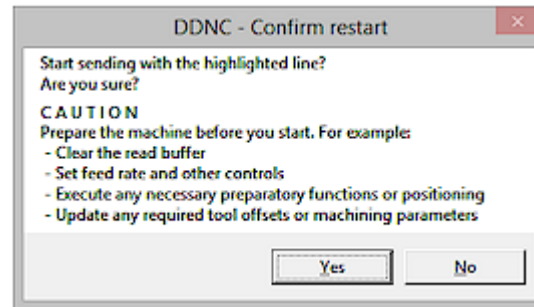
To restart a drip-feeding session from a specific line within the file:

1. In Dostek DNC Communication, click **Stop**. Dostek DNC stops sending data, and displays "Transfer cancelled" in its status panel.
2. Position the cursor to the line you wish to restart from. You can position the cursor using the mouse, the scroll bar, the cursor keys and the Page Up, Page Down, Home and End keys.

- Click **Start from**. The restart menu appears.



- In the restart menu, click **From current line**. A confirmation message appears.

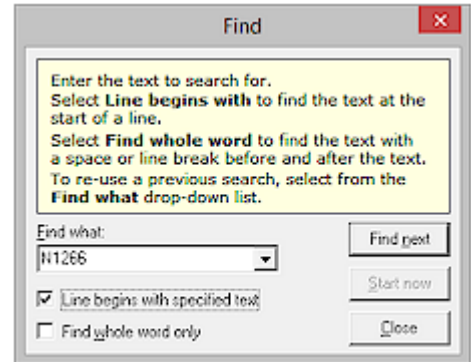


- Click **Yes**. The computer prepares to send the file, starting from the selected line, and displays "Waiting for Trigger" in the status panel at the bottom of its window.
- Prepare the CNC (see Section 5.2.2, "Preparing the CNC"). Ensure the CNC read buffer is empty.
- Carefully start the machine. Single-step at a reduced feed rate until you are confident the program is executing properly. View the program data on the machine's display screen to ensure the correct program data is being fed from the computer.

### 5.4.3 Restarting from Specific Text (Using "Find text")

To restart a drip-feeding session from a line containing specific text within the file using "Find text":

1. In Dostek DNC Communication, click **Stop**. Dostek DNC stops sending data, and displays "Transfer cancelled" in its status panel.
2. Click **Start from**. The restart menu appears.
3. In the restart menu, click **Find text or N-block number**. The Find dialog opens.
4. Type the text to search for. You can type an N-block number, comment or other text contained within the file. For more information about search options, see "Using the Find Dialog," below.
5. Click **Find next**. Dostek DNC searches for the text you entered. If the text is found, it is highlighted in the Dostek DNC window. If the text is not found between the current position and the end of the file, you can search again from the start of the file.
6. Examine the search result carefully. Ensure you have found the correct starting point. The file may contain more than one instance of your search text. To find the next instance, click **Find next** again.
7. When you are certain that the correct starting position is highlighted in the Dostek DNC window, choose one of the following actions:
  - a) To immediately start drip feeding from the selected (highlighted) line, click **Start here**. A confirmation message appears. Click **Yes**.
  - b) To start drip feeding from a different position (for example, from a line or two before or after the selected line):
    - click **Cancel** to return to the Dostek DNC window
    - click on the desired starting line
    - click **Start from**, and then click **From Current line**.
8. Prepare the CNC (see Section 5.2.2, "Preparing the CNC"). Ensure the CNC read buffer is empty.
9. Carefully start the machine. Single-step at a reduced feed rate until you are confident the program is executing properly. View the program data on the machine's display screen to ensure the correct program data is being fed from the computer.



### Using the Find Dialog

The Find dialog provides two options to help you find text.

Check **Line starts with** to find text that begins at the start of a line.

Check **Find whole word** to find text that is preceded and followed by either a line break or a space.

When searching for an N-block number:

- Type the N-block number exactly as it appears in the file. Include leading zeros. For example, searching for "N120" does not find "N0120".
- Account for block skip characters (/). If **Line starts with** is checked, searching for "N0120" does not find "/N0120".



## 6 Using "Remote" DNC Communication

With remote DNC, you can upload, download and drip-feed without leaving the CNC. There is no need to walk to the computer. You send commands to the computer using the CNC's control panel.

You can also remotely print a file, view a file directory list or view recent activity messages.

To send commands from the CNC to the computer, you simply punch out a short program file that contains a specifically-formatted command.

Most Dostek DNC sample CNC configurations are designed to:

- Recognize program numbers 7990 through 7998 as command programs.
- Send messages (such as error messages or search results) as program number 7999.
- Use single-character commands enclosed in parenthesis, such as shown in the following table:

Command	Typical Format
Load from computer	(L filename)
Save to computer	(S filename)
Get file directory	(D search)
Print file	(P filename)
Get messages	(M)

You can easily configure Dostek DNC remote commands to suit your preference. For more information about command formats, including detailed examples:

1. Open Dostek DNC Configuration window (DConfig).
2. Select a configuration, and then select the "Remote commands" tab.
3. Click **Help** in DConfig's **Help** menu. The "Remote commands" help topic opens.

### 6.1 Opening Remote Server (DRemote)

To open Dostek DNC Remote Server (DRemote):

- On the Windows **All programs** menu, point to **Dostek DNC**, and then click **Dostek DNC Remote Server**.

#### **Notes:**

- › Before you use remote DNC, create a separate configuration for each CNC, and test communication using classic DNC.
- › When you open DRemote for the first time, a help window opens. It explains how DRemote works and the steps required to add each CNC.
- › To open Dostek DNC Remote Server automatically each time the computer starts, copy the shortcut from the Windows All Programs menu to the Windows "All Programs\Startup" folder.

## 6.2 Loading a File to CNC from Computer

To remotely load a file to the CNC from the computer:

1. Edit a command file on the CNC to specify a file name you wish to load. For example, to load file "A1234" from the computer, edit command program O7990:

```
O7990 (DNC LOAD)
(L A1234)
```

2. Send the command file from the CNC to the computer, using the CNC's punch, send or output command.
3. Wait 5 seconds to give the computer time to process the command.
4. Load the file to the CNC from the computer, using the CNC's load, read or input command.

### **Notes:**

- > If Dostek DNC detects an error (for example, if the requested file is not found), it sends a short error message to the CNC instead of the requested program. For example:

```
O7999 (DNC MESSAGE)
(DELETE THIS FILE AFTER READING MESSAGE)
(O1 FILE NOT FOUND - F=/CNC/VMC300/O2975.TAP)
%
```

- > You can specify a path, relative to the root folder. For example:

```
O7990 (DNC LOAD)
(L ACME/A1234)
```

- > The "(DNC LOAD)" comment in the examples is not required. It simply identifies the purpose of the DNC command program.

### 6.2.1 Controlling File Access

When you add a CNC to DRemote, you configure the "Send from" folder and "Search subfolders" option to control where DRemote searches for requested files.

## 6.3 Drip Feeding a Large File

To drip-feed a program, you use the same remote command you use for loading a file. However, after sending the command to the computer, you execute a different command on the CNC.

For example, on many Fanuc CNCs you:

- Select "Edit" mode and press "Read" or "Input" to load a program into memory.
- Select "Tape" mode and press "Cycle Start" to drip-feed a program.

Dostek DNC Remote Server also lets you start drip-feeding at a specific line in the program, or automatically repeat the same program over again for multiple parts. For example:

- To drip feed starting at a specific block, include a search string in your command:

```
O7990
(L A1234 N1000)
```

- To automatically repeat the same program continuously, include the "C" (continuous) option in your command:

```
O7990
(L A1234 -C)
```

## 6.4 Saving a File from CNC to Computer

To remotely save a file from the CNC to the computer, simply send it from the CNC to the computer using the CNC's punch, send or output command. Remote Server automatically names all received files according to the part or program number.

When you save a file from the CNC, DRemote can send a confirmation message so the CNC operator can verify the file was saved. For more information, see Section 6.4.5, "Confirming Saved Files."

### 6.4.1 Controlling File Location and Replacement

When you add a CNC to DRemote, you configure the "Receive to" folder to specify a single folder where files received from each CNC are saved.

Specify a different folder for each CNC to ensure two CNCs do not attempt to create a file with the same name in the same folder at the same time.

By default, if a file with the same name as the received file already exists in the "Receive to" folder, it will be replaced. You can prevent received files from replacing original files in any of the following ways:

- Specify a "Receive to" folder that is separate from the folder where original files are stored.
- Configure Dostek DNC to add a prefix or suffix to the file name. For example, add suffix "#" to received file names so "A1234#" does not replace "A1234".
- Click **Options** in DRemote's **Configure** menu, select the "Receive" tab, and then select "Keep (rename) existing files." DRemote will rename existing files with a numeric suffix (plus sign followed by the date and time expressed as an 8-digit integer) instead of replacing them. When you select this option, files are never deleted, so a large number of files can accumulate over time. To clean up extra versions of files:
  1. Open Windows Explorer to the root folder containing received CNC programs.
  2. Search for "\*+" (that is, asterisk \* followed by plus sign +). A list of all files with Dostek DNC's numeric suffix is displayed.
  3. Select all found files, and press **Delete**.

### 6.4.2 Saving a File with a Specific Name

You can override automatic file naming to remotely save a file with a specific name:

1. Send a "Save" command file from the CNC to the computer, specifying a file name. For example:

```
07990
(S A1234)
```

2. Send the data you wish to save. You can send one part program, several part programs, or data such as tool offsets or machine parameters.
3. After you send all of the data, send any command file from the CNC to the computer. Dostek DNC stops receiving and closes the file when any command file is received. For example, you can send a SAVE command, omitting the file name:

```
07990
(S)
```

#### **Note:**

- › Be sure to close the file as indicated in step # 3. If you fail to close the file, extraneous received data may be added to the end of the file.

### 6.4.3 Saving Multiple Programs to a Single File

To remotely save multiple programs to a single file with a name you specify, follow the procedure described in (previous) Section 6.4.2, "Saving a File with a Specific Name." However, if you prefer to automatically name the file using the program name or comment included in the first received file, use the "Save single" command instead in step #1:

```
07990
(SS)
```

### 6.4.4 Saving Machine Parameters to a File

Dostek recommends using classic communication for saving CNC parameters to a computer file. You can view the received parameters on the computer screen to verify they are received correctly. However, you can also save parameters remotely using the above "Save a File with a Specific Name" procedure.

### 6.4.5 Confirming Saved Files

You can configure DRemote to automatically send a "confirmation" message to the CNC immediately after a file is saved. This feature allows the CNC operator to verify the file was actually saved. The confirmation message includes the file size, and the first and last several lines from the file.

To configure DRemote to automatically send a confirmation message after receiving a file:

1. Open the DRemote window, and select a CNC.
2. Click **Disconnect** in DRemote's **Channel** menu to disconnect the channel. The channel must be disconnected to change its configuration.
3. Click **Properties** in DRemote's **Channel** menu. The selected CNC's properties window opens.
4. Select **Send confirmation for received files** in the "Remote command options" section, and then click **OK**.
5. Click **Reset** in DRemote's **Channel** menu to restart the channel.

To view the confirmation message:

- Wait 5 seconds after the CNC finishes sending the file to the computer (to allow the computer time to process the file), and then execute a read or input command. The confirmation message is loaded into the CNC (typically as program 07999).

## 6.5 Requesting a Directory Listing

To remotely request a directory listing:

1. Edit a command file on the CNC to specify the "Directory" command and optional parameters. For example:

```
07994
(D)          or: (D filename) or: (D folder\)
```

2. Send the command file from the CNC to the computer, using the CNC's punch, send or output command.
3. Wait 5 seconds to give the computer time to process the command.
4. Load the response to the CNC from the computer, using the CNC's load, read or input command.

## 6.6 Requesting Messages

To remotely request a list of recent messages:

1. Edit a command file on the CNC to specify the "Message" command. For example:

```
O7994  
(M)
```

2. Send the command file from the CNC to the computer, using the CNC's punch, send or output command.
3. Wait 5 seconds to give the computer time to process the command.
4. Load the response to the CNC from the computer, using the CNC's load, read or input command.

## 6.7 Printing a File

To remotely print a file:

1. Edit a command file on the CNC to specify the "Print" command, including the file name. For example:

```
O7994  
(P filename)
```

2. Send the command file from the CNC to the computer, using the CNC's punch, send or output command. The file is printed on the designated printer.

To designate a printer:

- Disconnect the channel, click **Properties** in DRemote's **Channel** menu, and type the printer name in **Print to**.

## 6.8 Monitoring Remote DNC

You can use DRemote's user interface to test and monitor remote DNC.

To monitor remote DNC, you can:

- Click a column header in the CNC channel list to sort the list by name, COM port, type or description. Or, point to **Arrange (sort) channels by** in DRemote's **View** menu, and then click a sort option.
- View event log messages to monitor uploads, downloads and remote commands.
- Point to **View** in DRemote's **Channel** menu to view recent messages, the last file sent to, or the last file received from the selected CNC.
- If you are using Ethernet/serial COM ports, and entered each port's IP address in your CNC configurations, point to **IP address** in DRemote's **Channel** menu to test (ping) an adapter's IP address or open the adapter's Web console.
- Point to **Explore** in DRemote's **Channel** menu to open the CNC's "Receive to" or "Send from" folder in Windows Explorer.
- Click **CNC channel report** in DRemote's **Configure** menu to view a sorted list of all CNC channels.

## 6.9 Testing Remote Commands

To test remote commands:

1. Test saving a file from the CNC to the computer (Section 6.9.1).
2. Test loading a file to the CNC from the computer (Section 6.9.2)

### 6.9.1 Testing File Save

To test file save:

1. Send a file from the CNC to the computer.
2. Observe the following messages are displayed in DRemote's message window:

Receiving: *filename*  
Finished receiving: *filename (file\_size\_in\_bytes)*

If *filename* is "Untitled," this means one of the following:

- The data received from the CNC does not include a file name. For example, you output CNC parameters, tool offsets or other non-program data. You can either manually rename the received file, or see Section 6.4.2, "Saving a File with a Specific Name."
- The file naming settings in DConfig's "Receive Options" tab do not match the program name or number format output by the CNC. For example, you configured Dostek DNC to expect the program name to start with the letter "O", but it actually starts with the colon symbol ":". This is a common problem with Fanuc CNCs, because some models output program names as "O1234" while others output program names as ":1234".
- Dostek DNC's communication parameters (baud rate, data, parity) do not match the CNC communication parameters. Test communication using "classic" DNC, or using Dostek DNC Com Test Terminal.

### 6.9.2 Testing File Load

To test file load:

1. Send a "Load" command program from the CNC to the computer.
2. Observe the following messages are displayed in DRemote's message window:

Receiving: *filename*  
Finished receiving: *filename (file\_size\_in\_bytes)*  
Remote command: *filename|command|*  
Sending: *requested\_filename (file\_size\_in\_bytes)*

If *filename* is "Untitled," see the previous section.

If the "No remote commands found" message is displayed, examine the command in the "Remote command" message, and verify that it matches the command parameter configuration you selected.

If "Remote command" and "Sending" messages are missing, Dostek DNC does not recognize the received file as a "remote command" file. Investigate as follows:

1. Point to **View** in DRemote's **Channel** menu, and then click **Last file received**. The last received file opens in the viewer window.
2. Verify that the file name matches the "Match CNC Prgrm ID" setting in the "Remote Commands" tab for your CNC configuration.

For detailed information about testing remote commands, point to **Help topics** in DRemote's **Help** menu, and then click **Testing remote operation**.

## 7 Managing Files

This section explains how you can use Dostek DNC to:

- Select files and folders
- Create, rename and delete files and folders
- Copy and move files and folders
- Find files
- View and print files
- Edit and reformat files
- Refresh the file display
- Compare files and use advanced searching

### 7.1 Selecting Files and Folders

To use or modify a file or folder, you must first select it:

- To select a single file, click the file.
- To select more than one consecutive file, press and hold the **Shift** key while clicking files.
- To select more than one non-consecutive file, press and hold the **Ctrl** key while clicking files.
- To select all files, click **Select all files** in the **Edit** menu.
- To clear file selections, click **Clear selections** in the **Edit** menu.

### 7.2 Creating, Renaming and Deleting Files and Folders

To rename or delete an existing file or folder, select the file and click **Delete file** or **Rename file** in the **File** menu.

To create a new file or folder:

1. In the folder window, select a folder in which to create the new file or folder.
2. In the **File** menu, point to **Create new** and then do one of the following:
  - Click **New file** to create a new file.
  - Click **New folder** to create a new folder.
  - Click **New duplicate file** to create a duplicate copy of the currently-selected file.
3. Type a name for the new file or folder, and then click **OK**. The new file or folder is created in the file (right-hand) window.

#### **Note:**

- > **New duplicate file** is available only when one file is selected.

### 7.3 Copying and Moving Files and Folders

Use standard Windows methods for copying and moving files and folders:

- Copy and paste
- Cut and paste (delete original file or folder after copying)
- Drag and drop

When you drag and drop files or folders, File Manager displays a menu when you release the mouse button. This prevents you from accidentally moving files.

- Click **Copy** to add a copy of the items to the new location.
- Click **Move** to move the files from the previous location to the new location.
- Click **Cancel** if you change your mind.

#### **Note:**

- › Dostek DNC File Manager displays a warning before replacing an existing file or folder.

### 7.4 Finding a File

To find a file in the current folder:

1. Click **Go to file...** in Dostek DNC File Manager's **Search** menu. The "Go to file" window opens.
2. Type a file name. As you type, File Manager shows the name of the file that most closely matches what you have typed so far.
3. When the name of the file you are looking for appears, do one of the following:
  - Click **Send** to send the file to the CNC.
  - Click **Edit** to open the file in the Editor.
  - Click **View** to view the file.
  - Click **Select** to select the file and close the "Go to file" window.
  - Click **Cancel** to close the dialog box.

#### **Note:**

- › You can also open the "Go to file" using the following methods:
  - Click the **Go to file** icon in File Manager's toolbar.
  - Click File Manager's **Go to file** QuickButton.
  - Press **Ctrl+G**.





## 7.5 Viewing Files

To view a file, select it and then click **View** in File Manager's **File** menu. While viewing a file, you can:

- Click **Print** in the **File** menu to print the file.
- Click **Edit** in the **File** menu to open the file in the Editor.
- Click **Send to CNC** in the **File** menu to send the file directly to the CNC.
- Click **Find** in the **Search** menu to search for text.
- Press **F3** to search again for the same text.
- Press **F5** and **F6** to quickly view the previous or next file.

## 7.6 Printing Files

To print a file, either select the file in File Manager or open the file in Editor, and then click **Print** in the **File** menu.

To change printing options such as headers, margins, font size and page layout, click **Page setup** in Dostek DNC Editor's **File** menu.

Editor's font preference is used for printing. To change the setting, click **Preferences** in Editor's **File** menu.

## 7.7 Editing and Reformatting Part Programs

To edit a file, select it in Dostek DNC File Manager and then click **Edit** in the **File** menu.

With Dostek DNC Editor, you can:

- Open more than one file.
- Copy and paste or cut and paste text between open files.
- Search and replace text.
- Click **Save as** in the **File** menu to save the file with a different name
- Click **Block numbers** in the **Tools** menu to sequence or resequence part program files
- Click **Convert numeric values** in the **Tools** menu to reformat numeric values
- Click **Reformat** in the **Tools** menu to reformat part programs by any of:
  - Adding or removing spaces between words.
  - Converting letters to upper case.
  - Trimming leading and trailing spaces.
  - Filtering (removing) non-standard characters

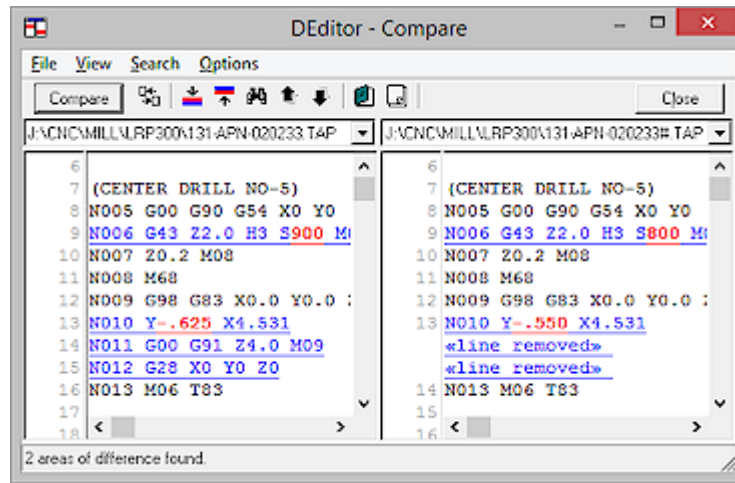
## 7.8 Refreshing the File List



File Manager does not automatically refresh the display when another Windows application creates, deletes or modifies a file in the folder File Manager is currently displaying. To manually update the display, click **Refresh** in the **View** menu, or click the Refresh icon in the toolbar.

## 7.9 Comparing Files

Side-by-side file comparison lets you compare two versions of a file to find differences or track changes.



To compare two files:

1. Open both files in Dostek DNC Editor, and then click **Compare files** in the **File** menu. The Compare window opens.
2. Select the files to compare from the drop-down list in both the left and right sides of the window. If only two files are open, the files are selected automatically.
3. Click **Compare**. Comparison results are displayed. Each line that differs is underlined and blue. The portion within each line that differs is red.

You can:

- Scan through the areas of difference by clicking **Next difference** or **Previous difference** in the **View** menu (or by pressing Ctrl+N or Ctrl+B respectively).
- Choose one of three comparison formats in the **View** menu:
  - Split screen showing all text.
  - Split screen showing differences only.
  - Plain-text report showing differences only.
- Choose comparison options in the **Options** menu:
  - Ignore upper/lower case, spaces, N-block numbers or blank lines.
- Search for text within the results.
- Print the report, or copy the report to an Editor window.

## 7.10 Using Advanced Searching

Advanced searching lets you search files and folders to find text.

To find files using File Manager, click **Search** in the **Search** menu. You can find files by:

- **File name.** You can use Windows wild cards. For example \*.TAP finds all files with .TAP file type, or R77\*.\* finds all files whose name starts with R77.
- **File content.** For example, find all files containing a specific part number or tool description, or all files containing a specific G-code sequence. When searching for file content, File Manager can optionally also display the lines in the file containing the search text.
- **File date.** For example, find all files modified or created within the last 30 days.

Editor and Viewer provide a "Find all" command to find all lines inside a file that contain specific text. For example, you can view a list of all comments by searching for "(" , or you can find all lines containing a specific G code.

To use advanced searching in Editor or Viewer:

1. Click **Find all** in Editor's **Edit** menu, or click **Find all** in Viewer's **Search** menu. The "Find All" window or prompt opens.
2. Type the text to search for and click **Find** or **OK**. The search results window opens.

You can:

- Immediately jump to a specific line in the file by double-clicking the line in the search results.
- Print the search results.

### **Tips:**

- > If you include comments in your part program to identify each tool, you can use the Editor's or Viewer's "Find all" command to prepare a tool list. For example, include comments such as "(TOOL#11 .50 END MILL)" and then search for "TOOL#". You can print the results, or copy them to the Windows clipboard.
- > Some users search for "(" to find and print all comments, creating a simple setup sheet.

## 8 Protecting Your Investment

To protect your investment against computer failure or loss of data, take the following basic precautions:

- Make multiple duplicate copies of your Dostek DNC software and license key file.
  - If you purchased a Dostek DNC software CD, copy the entire software CD. It contains your software and your license key file.
  - If you downloaded Dostek DNC, copy the downloaded file and the Dostek DNC software license key file you received from Dostek by email.
- Make a backup copy of your Dostek DNC configuration files after initial installation and then any time you change configuration settings.
- Make regular backup copies of your CNC data files.
- Copy your files to CDs, DVDs, other computers, a shared folder on a file server, a "cloud" storage service, or to a USB drive.
- Store your files where you can find them when you need them.

### **Note:**

- > To make a backup copy of your Dostek DNC configuration files, click **Express Backup** in the **Tools** menu in Dostek DNC Configuration.

In addition to these basic precautions, consider the following additional ways to protect your investment.

**Make multiple backup copies.** Two copies are better than one. Store your backup copies in secure locations where you can find them when you need them.

**Make an off-site backup copy.** Store at least one copy of your data off-site. You can:

- Copy your data to CDs, DVDs or a portable drive.
- Copy your files to Web-based storage, such as SkyDrive (Microsoft) or Google Docs.
- Subscribe to an automatic off-site backup service like Carbonite Online Backup.

**Prepare a written recovery plan.** Make a detailed recovery plan. Write down how and where your data is backed up. Test your procedure, and review it at least once a year.

**Set up a backup computer.** Install your software and data on a second computer so you can quickly replace your main computer when it fails. Update the data files and test the computer every few months.

**Add Dostek DNC to your regular backup.** If you have an in-house data backup system, consider adding Dostek DNC's "Settings" folder to the backup.

**Write down your CNC's communication parameters.** Write them down in the CNC's manual, or record them in the "Notes" tab in Dostek DNC Configuration or a spreadsheet or text document.

**Save your CNC parameters.** Most CNC's let you output all of the parameters to a computer. Use Dostek DNC to save the data in a disk file. Include the date in the file name so you know when the parameters were saved. If your CNC ever loses its parameter memory, you can load the data from the computer instead of typing it all in by hand. Or, you can compare the current CNC parameters with a previously-saved copy to quickly identify any differences.

## **9 Troubleshooting and Support**

This section helps you with:

- Resolving installation problems (Section 9.1)
- Resolving software problems (Section 9.2)
- Resolving CNC communication problems (Section 9.3)
- Sending Configuration and Data Files to Dostek (Section 9.4)
- Getting Help (Section 9.5)

For more information about troubleshooting procedures, download the *Technical Support Procedures* document from the Support page on the Dostek Web site.

### **9.1 Resolving Installation Problems**

If you encounter a problem while installing Dostek DNC:

- Write down, print or save a screen image of every error message.
- Log on to your computer using an account with administrator privileges and ensure all other windows are closed before you install the software.
- Carefully read and follow all messages and instructions displayed on your computer screen during installation.
- Fully complete the Dostek DNC First-Time Setup Wizard. It starts automatically when the software installation is completed.
- Try installing Dostek DNC on a different computer. There may be a problem with your computer. Windows computers can become unstable over time due to viruses, spyware, registry corruption, installation of non-compliant applications, and so on.

### **9.2 Resolving Software Problems**

If you encounter a problem when you start Dostek DNC or perform a specific task:

- Write down, print or save a screen image of every error message.
- Write down exactly what you were attempting to do when the problem occurred, including the commands or key sequences you pressed.
- Restart the computer and try again. Windows computers can become unstable or low on resources.
- Ensure the computer's disk drive is not full.
- If you are attempting to access files on a network resource, ensure the network is working properly and you have sufficient privilege.
- If you have difficulty creating, deleting or modifying files, ensure the user account you are using has sufficient permission.

### 9.3 Resolving CNC Communication Problems

Follow these instructions when troubleshooting communication problems with a CNC that is connected directly to the computer. To troubleshoot communication problems with the Dostek Model 440A Behind-the-Tape Reader (BTR), see Section 6.3.1 and Section 7 in the *Dostek 440A BTR User Guide*.

If you encounter a problem when you upload, download or drip feed:

- Write down, print or save a screen image of every error message displayed by the software or by the CNC.
- If the CNC displays an alarm, find the alarm description in the CNC manual and write it down or make a copy of the manual page.
- Use the sample device configuration provided for your CNC, and carefully read the notes provided in the "Notes" tab. For more information about using sample configurations, see Section 4.1.1, "Using Sample CNC Configurations."
- Keep detailed notes. Before you change anything (on the computer or the CNC), write down the current setting, the new setting, and the reason for the change.
- View the *Communication Testing and Troubleshooting* help file (Navigator Help tab) for detailed recommendations for typical communication problems. Go to the "Problem Topics" section and find the topic heading that most closely describes your problem.

### 9.4 Sending Configuration and Data Files to Memex Support

To help diagnose a problem, Memex may require a copy of your Dostek DNC configuration files and/or a copy of one of your CNC part programs. You can send files to Memex by email.

To submit your Dostek DNC configuration files by email:

1. Open Dostek DNC Configuration.
2. On the **File** menu, point to **Explore Folder**, and then click **Dostek DNC Settings**. The Dostek DNC "Settings" folder opens in a Windows Explorer window.
3. On the Explorer window's **Edit** menu, click **Select All**. All files in the Settings folder are selected.
4. On the **File** menu, point to **Send To**, and then click **Mail Recipient**. A new mail message opens.
5. Type **support@memex.ca** in the **To** box.
6. Click **Send**.

#### **Note:**

- › If the computer does not have an email application installed, instead copy the files to another computer that is equipped to send email.

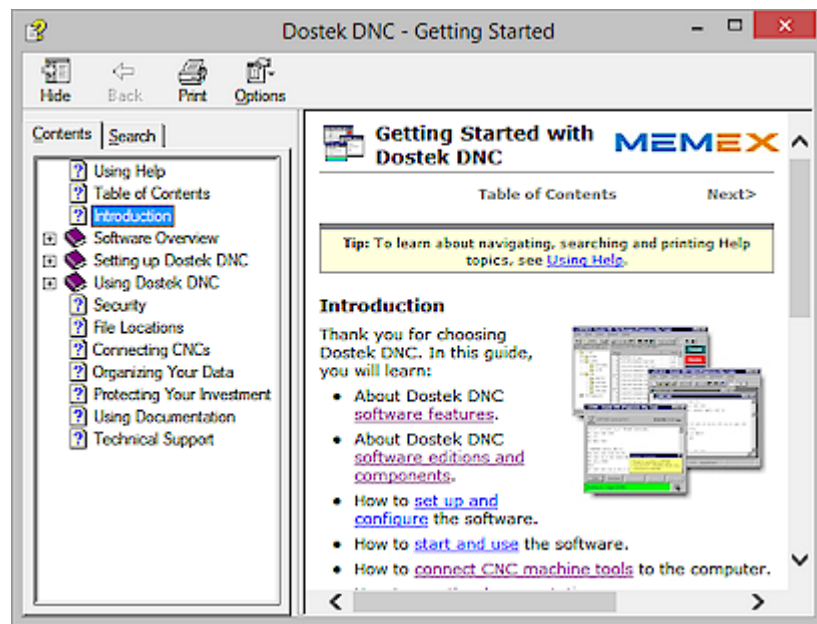
## 9.5 Getting Help

This section explains how to get help understanding Dostek DNC software or resolving problems. Resources include help documents, application notes, and technical support.

### 9.5.1 Help Documents

Dostek DNC includes more than a dozen detailed help documents to help you understand, configure and use Dostek DNC, and troubleshoot CNC communication problems. To view help documents, use any of the following methods:

- Open Dostek DNC Navigator, and then select the **Help** tab.
- Click **Help** in the **Help** menu of a Dostek DNC window.
- Click the **Help** icon in the toolbar of some Dostek DNC windows.



Help documents include a side panel with Contents and Search tabs, and a toolbar with a Print icon.

Help topics are listed in the Contents tab. To expand or collapse sub topics, click the [+] or [-] symbol beside the topic.

Select the Search tab to search for specific words or phrases.

Click the Print icon in the toolbar to print an entire help document, or a specific help topic.

#### **Note:**

- › To search all Dostek DNC help topics for a specific word or phrase, open Dostek DNC Navigator (DDNav), select the Help tab, and then click the Master Help link. The master help document combines all Dostek DNC help topics.

### 9.5.2 Application Notes

To view application notes covering a variety of topics:

- Open Dostek DNC Navigator, select the **Application Notes** tab, and then click **Application Note Selector**.

### 9.5.3 Memex Technical Support

When contacting Memex for support, provide the following information:

- Your name, company name, telephone, and email.
- Your Dostek DNC software serial number and software version number. This information is displayed when you click **About** in Dostek DNC's **Help** menu, and is also recorded on the media page at the front of the optional printed User Guide.
- If the CNC machine or Dostek DNC displays an alarm or error message, include the exact message (write it down, or take a computer screen image or photo of the CNC screen).

#### Web Site

The Memex Web site provides all the information you need to recover from a problem. Type the following address into your Web browser, and then click Support.

[memex.ca/dostek](http://memex.ca/dostek)

View the Dostek Support Guide. It helps you with emergency or after-hours support and helps you collect and submit information about a problem.

#### Contact Memex

E-mail:	<a href="mailto:support@memex.ca">support@memex.ca</a>
Phone:	519-742-5721
Hours:	8 am to 5 pm EST



## Appendix A - Downloading Dostek DNC

If you purchased a new or updated version of Dostek DNC, you can download the software from the Dostek Web site for a period of one year. Thereafter, you must purchase a software update or support subscription to download new software versions.

To download Dostek DNC software:

1. Open the Dostek DNC software download page in your Web browser:  
[www.dostek.com/software](http://www.dostek.com/software)
2. Take a moment to read the instructions and Frequently Asked Questions on the Web page. If you are not familiar with using software downloads, click **How to download**, and then read the instructions (or print the page so you can refer to it while downloading).
3. Click **Download**. The next steps depend on the options provided by the Web browser you are using. Choose an option that saves the download file on your computer; do not run the download without saving it. You need to keep copies of the download so you can reinstall the software or move it to another computer later.
4. Make multiple backup copies of the software download file. You need this file to reinstall or repair your software. Store your backup copies where you can find them when you need them. You can copy the download file to:
  - a blank CD or DVD
  - a USB drive
  - a shared network folder
  - other computers
5. To install the software download, open the downloaded file. The download file is named with the prefix "DDW" followed by a five-digit software version. For example, the file for version 15.10A is "DDW1510A.exe".

## **Appendix B - Removing Dostek DNC**

Dostek may recommend removing Dostek DNC software before installing a major Dostek DNC software update, or when repairing an installation that no longer works properly.

### **Before removing Dostek DNC:**

- Make a new backup copy of your Dostek DNC configuration files.
- Make a new backup copy of all other important files on your computer.

To remove Dostek DNC software:

1. Open Windows Control Panel.
2. Click **Programs, Programs and features, or Add or remove programs**, depending on your Windows version and current Control Panel view. Windows displays a list of installed software.
3. Click "Dostek DNC" in the program list to select it, and then click **Uninstall**.

Some Dostek DNC files or registry keys may not be removed by Uninstall. You can optionally remove any remaining files by opening Windows Explorer and searching for "Dostek DNC" folders or registry keys in the following locations:

- "C:\\" (C-drive root folder)
- "C:\Program files" or "C:\Program files (x86)"
- "C:\ProgramData"
- Registry "HKEY\_CURRENT\_USER\Software\Dostek"
- Registry "HKEY\_CURRENT\_USER\Software\Wow6432Node\Dostek"

## Appendix C - File Locations

Dostek DNC installs or creates files in the following locations:

### **Dostek DNC software and resource files:**

By default, Dostek DNC software and resource files are stored in the following folders on 32-bit and 64-bit systems respectively:

- C:\Program files
- C:\Program files (x86)

Dostek DNC requires "read" access to this location. Software and resource files should not be modified by users.

You can override the default location during software installation. However this is not recommended.

### **Dostek DNC configuration and log files:**

Dostek DNC configuration settings and log files are stored in the folder specified by the Windows environment variable "ALLUSERSPROFILE." On Windows 7 and Windows 8 computers, this folder is usually "C:\ProgramData." Dostek DNC creates two folders:

- C:\ProgramData\Dostek DNC\Settings
- C:\ProgramData\Dostek DNC\Log

Dostek DNC requires "read" access to the Settings folder for all user accounts, and "full" access to the Settings folder for any user account to be used for modifying Dostek DNC configuration settings.

If you enable Dostek DNC's event logging feature, Dostek DNC requires "full" access to the Log folder for all users.

Dostek DNC stores primary configuration settings in files, rather than in the Windows registry, to:

- make the same settings available to all user accounts
- make it easier to back up, copy, move and restore configuration settings

You may not change the location of configuration and log files.

### **CNC part programs:**

You can configure Dostek DNC to access one or more specific local or network folders, or your entire computer and network. When you install Dostek DNC, the First-Time Setup Wizard offers to create a folder named "CNC Programs" in the folder specified by the Windows environment variable "PUBLIC." On Windows 7 and Windows 8 computers, this folder is usually "C:\Users\Public".

You can configure folder access any time by clicking **Root folders** in Dostek DNC File Manager's **Configure** menu, or in the "Folders" tab in Dostek DNC Configuration.

Dostek DNC requires "read" access to the folders you specify, or "full" access for any users authorized to create (including receive from CNC), modify or delete CNC part program files.

**Dostek DNC Preferences:**

Dostek DNC preferences, such as window sizes and locations, are stored in the Windows registry, in the following key:

HKEY\_CURRENT\_USER\Software\Dostek

All Dostek DNC users need "full" access to this location.

**Note:**

- > For detailed information about Dostek DNC security features and requirements, see Appendix D - Security."

## Appendix D - Security

Earlier versions of Dostek DNC could be configured to require a password to modify files and configurations ("Supervisor" mode). This feature is discontinued because current Windows versions provide excellent file security controls.

You can easily configure Windows file security to allow "read only" or "full" access to individual user accounts.

To prevent specific user accounts from modifying Dostek DNC configuration settings, change Windows file security settings to allow only "read" access to the Dostek DNC Settings folder (see Appendix C , "File Locations," for the location).

When Dostek DNC main windows open, they test the ability to create and modify configuration files. If access is restricted, Dostek DNC hides the **Configure** menu.

When configuring security settings:

- Ensure all Dostek DNC user accounts have "read" access to the Settings folder. To allow a user account to modify settings, configure the user account to have "full" access.
- Ensure all Dostek DNC user accounts have "read" access to CNC part program files. To allow a user account to create, modify or delete CNC part program files, configure the user account to have "full" access.
- If event logging is enabled, ensure all user accounts have "full" access to the Log folder.
- Ensure all user accounts have "read" access to the "Program files" and "Program files (x86)" folders.

### Viewing Permissions

To view your current permissions, click **Permissions** in the **Help** menu in a Dostek DNC main window, or click **Permissions** in Dostek DNC Navigator's "Introduction" tab.

