

QUICK START GUIDE

PLC WorkShop SuperSuite / Suite for Siemens 505

PLC WorkShop for Siemens 505

505 Simulator

FTVersionTrak / FTVersionTrak PE

FasTrak
SoftWorks, Inc.

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This is a Quick Start guide, not a comprehensive manual. Its purpose is to get you started, and many features are not mentioned. For detailed descriptions of the features, refer to the PLC WorkShop for Siemens 505 help system.

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Chapter 1 – System Requirements and Installation

Using the Quick Start Guide

Welcome to the Quick Start Guide for the PLC WorkShop Suite/SuperSuite for Siemens 505. The purpose of this Quick Start Guide is to get you using the software quickly. For this reason, this guide does not contain comprehensive information about all facets of the Suite/SuperSuite. For detailed descriptions of features, please refer to the online help included with each application.

PLC Workshop for Siemens 505 Suite/SuperSuite Specifications

PLC Support

Supports the entire line of **CTI 2500 Series** PLCs: 2500-C100, C200, C300, C400

Supports the entire line of **Siemens/TI 505** PLCs including:

500 Series: **520** 1101; **520C** 1101, 1102; 530 1102, 1104, 1108; **530C/T** 1104, 1108, 1112; **560** 2120; **565** 2120; **560T** 2820; **565T** 2820

505 Series: **525** 1102, 1104, 1208; **535** 1204, 1212; **545** 1101-1106; **555** 1101-1106; **575** 2102-2106

Operating Systems

Client/Workstations

Windows XP Professional w/SP1 or later

Windows Vista Business or Enterprise

Windows 7 32-Bit or 64-Bit

Windows 8

Database Operating Systems

Windows Server 2003 SP1 or later

Windows Server 2008

Windows XP Professional SP1A or later

Windows Vista Business or Enterprise

Windows 7 32-Bit or 64-Bit

Windows 8

Note: Home/consumer versions of Windows are not supported.

Supported Databases

MS SQL Server 2005

MS SQL Server 2005 Express (included)

MS SQL Server 2008

MS SQL Server 2008 Express

Communications Support

Supports all methods of communications including Serial with modem support (COM 1–COM 256), TCP/IP, FMS, and Serial TIWAY

Hardware Requirements

PC Platform

Recommended – 1 GHz or greater

Memory

Recommended – 512 MB or greater

Hard Disk Space Required

100 MB for client, 525 MB minimum for database

NOTE: You must be logged in as the administrator to install the PLC WorkShop for Siemens 505 Suite/SuperSuite.

Installing the PLC WorkShop for Siemens 505 Suite/SuperSuite

Installing the PLC WorkShop for Siemens 505 Suite/Super Suite consists of installing 505 WorkShop, 505 Simulator, and FTVersionTrak. The Suite includes the basic version of FTVersionTrak (PE), while the SuperSuite include the full version. Contact Sales if you want to upgrade.

Installing 505 WorkShop and 505 Simulator

1. Insert the PLC WorkShop for Siemens 505 CD in your PC's CD-ROM drive. You must be an Administrator to install 505 WorkShop and 505 Simulator.
2. The setup program should start automatically. If not, manually run the setup program. (The set up program can be found at `x:\setup.exe`, where `x` is the letter of the CD-ROM drive).

3. To install 505 WorkShop, click **INSTALL 505 WORKSHOP** and follow the instructions that appear.
4. To install 505 Simulator, click **INSTALL 505 SIMULATOR** and follow the instructions that appear.
5. When the installations are completed, click **EXIT**.
6. Remove the PLC WorkShop for Siemens 505 CD from your PC.

Installing FTVersionTrak

Please refer to the FTVersionTrak installation guide.

Chapter 2 – Using FTVersionTrak

Using FTVersionTrak with 505 WorkShop

This guide describes using the basic version (FTVersionTrak PE), as well as the complete version (FTVersionTrak). The Suite includes FTVersionTrak PE, while the SuperSuite includes FTVersionTrak. Contact Sales if you would like to upgrade.

After installing FTVersionTrak, do the following to create a repository and begin experiencing the benefits of using FTVersionTrak to track, manage, and compare changes to your 505 WorkShop program files.

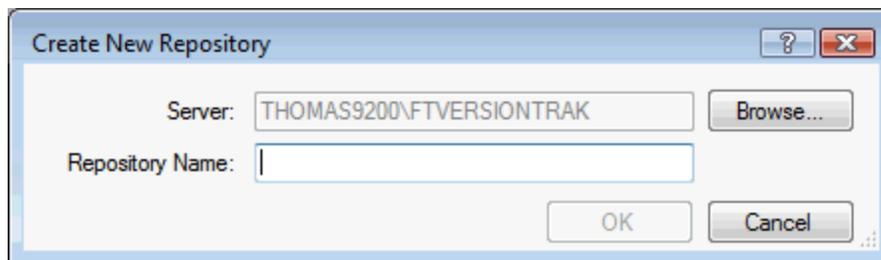
To create your FTVersionTrak repository:

1. Start your 505 WorkShop application.
2. At the top of the 505 WorkShop window, you should see the following FTVersionTrak toolbar:



3. Click the  button on the toolbar to start the FTVersionTrak client. The following dialog box appears. (Note: Users of the PLC WorkShop for Siemens 505

SuperSuite will need to select a server first. See the online help for detailed information.)



4. Enter a name for your FTVersionTrak repository and click **OK** to create the repository. Once the repository is created, you may close the FTVersionTrak client.

Certain aspects of the 505 WorkShop environment are different when your 505 WorkShop programs are protected by FTVersionTrak. Most differences occur automatically when opening and closing 505 WorkShop files. All other version control features can be accessed using the FTVersionTrak toolbar.

FTVersionTrak Toolbar

The FTVersionTrak toolbar consists of buttons that represent version control options available in 505 WorkShop. View the FTVersionTrak toolbar by clicking **FTVersionTrak Toolbar** on the **Toolbars** menu.



Button	Function
	Connect to the FTVersionTrak repository and add the active program
	Get a version of the active program file and place it into your working directory
	Check out the active program
	Check in the active program
	Undo checkout of the active program
	Compare the working copy of the active program to the version in the repository

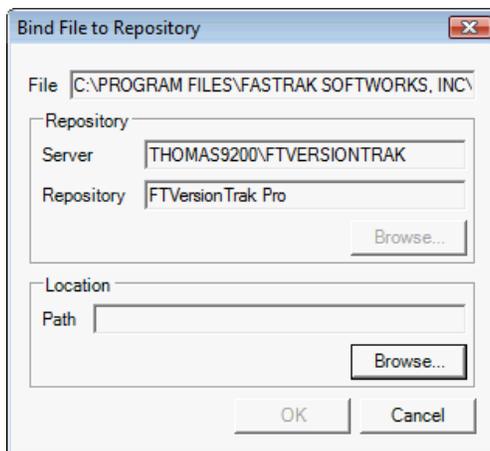
-  View the version history of the active program
-  Electronically sign the active program
-  Launch the FTVersionTrak client application

Adding Files to the FTVersionTrak Repository

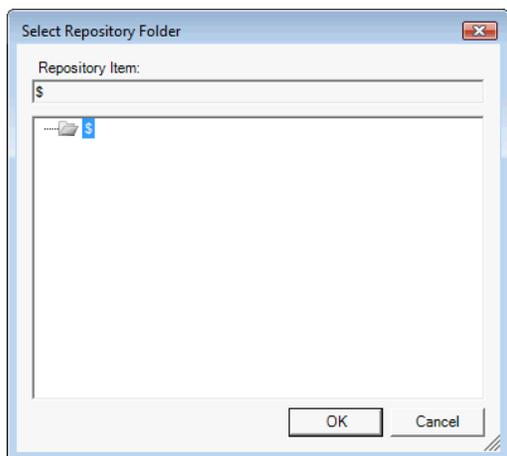
Before FTVersionTrak can begin securing your program files, they must be added to the FTVersionTrak repository. The repository is a secure, compressed database that exists apart from your local file system. This database keeps track of any changes made to the files added to it, as well as securing them from accidental or unauthorized deletion or removal.

To add a 505 WorkShop file to the FTVersionTrak repository:

1. Open the program file in 505 WorkShop.
2. Click  on the FTVersionTrak toolbar. The Bind File to Repository dialog box appears.



3. Under **Location**, click **Browse**. The Select Repository Folder dialog box appears.

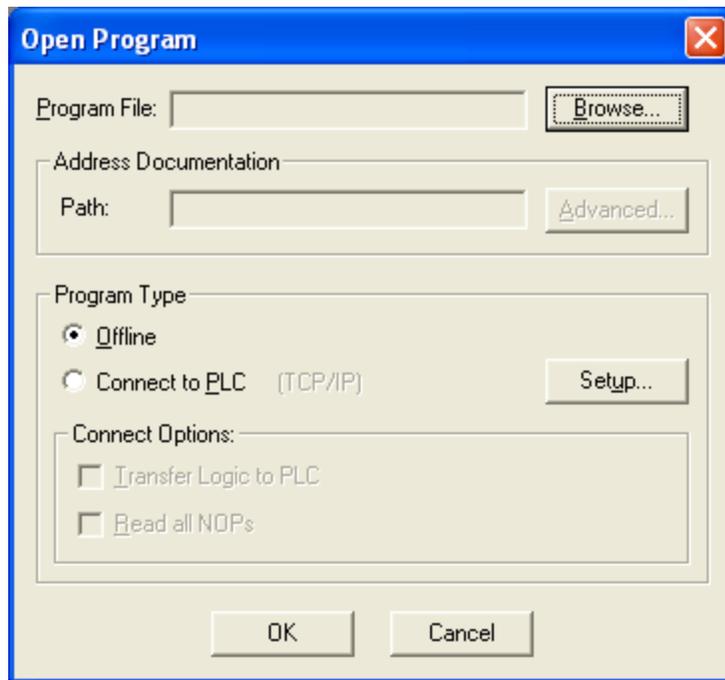


4. By default, no repository folders have been created. Click **OK** to add your program file to the root of the repository (this can always be changed later). Click **OK** to return to the Add File to Repository dialog box.
5. Click **OK** in the Add File to Repository dialog box. The program is added to the repository, and FTVersionTrak will begin to manage the changes to your program.

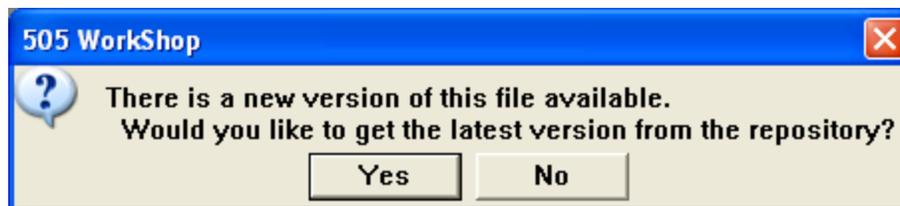
Opening 505 WorkShop Files

Once a 505 WorkShop file has been added to the FTVersionTrak repository and the latest version placed in your working directory, FTVersionTrak's seamless integration automates the version control process. Follow this procedure when opening 505 WorkShop files protected by FTVersionTrak for best results:

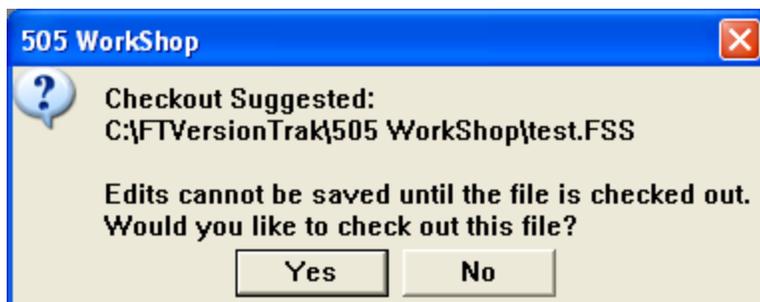
1. After launching 505 WorkShop, open the program by clicking **Open** on the **File** menu or by clicking the  toolbar button. The Open Program dialog box appears.



2. Click **Browse** and browse for the file. The file should be located in the directory specified in the get operation. Select the file and click **Open**. Click **OK** in the Open Program dialog box.
3. FTVersionTrak compares your version of the program with the version stored in the repository. If a newer version of the program is available, a message appears, allowing you to get the latest version.



- Click **Yes** to get the latest version.
 - Click **No** to open the older version of the program.
4. FTVersionTrak then verifies the check out status of the file. If the file is checked out to you, it opens normally. If not, a message appears, allowing you to check out the file.



- Click **Yes** to check out the file.
 - Click **No** to open the file without checking it out.
 - The program opens in 505 WorkShop.
5. After the program opens, the FTVersionTrak toolbar becomes active. The actions available using the FTVersionTrak toolbar pertain to the active program.

Saving 505 WorkShop Files

Edits to 505 WorkShop files protected by FTVersionTrak are not complete until they have been saved and checked in. 505 WorkShop automates this process to prevent accidental loss of changes to the program. The processes below illustrate the various scenarios a user encounters when attempting to save a 505 WorkShop file protected by FTVersionTrak.

Saving a 505 WorkShop File That Has Not Been Checked Out

If you attempt to save a file that is tracked by FTVersionTrak, but not checked out, then you will be prompted to check out the file.



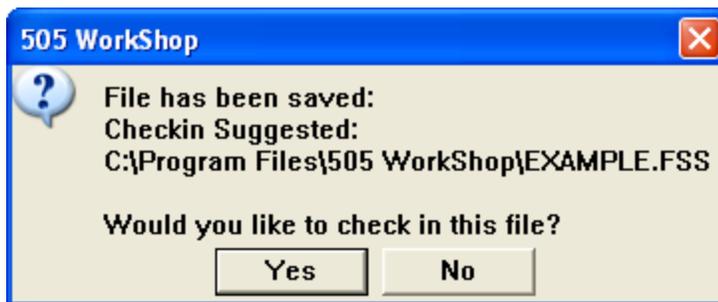
Clicking **Yes** displays the Check Out dialog box. After the file is checked out, 505 WorkShop saves the file.

NOTE: Depending on the FTVersionTrak Options set in 505 WorkShop, available by clicking **Application Setup** on the **Options** menu, you may be prompted to check in the file after it has been saved. Otherwise, you can check in the file by clicking  in the FTVersionTrak toolbar.

If you click **No**, the Save As dialog box appears. If the file is not checked out, you must save the file with a different filename to keep any changes made to the file.

Saving a 505 WorkShop File that is Currently Checked Out

When you choose to save a program that is checked out to you, 505 WorkShop can also check in the file for you automatically. Clicking **Application Setup** on the **Options** menu in 505 WorkShop displays the FTVersionTrak Options available in 505 WorkShop. Selecting the **Ask to Check In File After Save** check box displays the following message after each save:



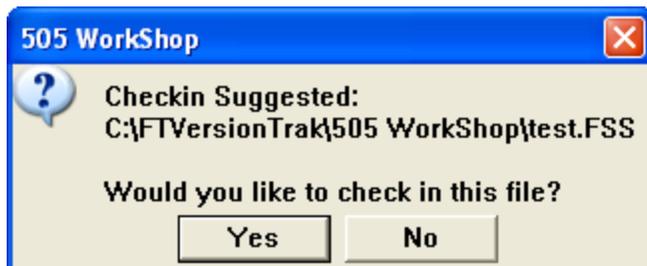
Clicking **Yes** displays the Check In dialog box. After the file is checked in, 505 WorkShop keeps the file checked out to you so that you may continue editing the program. Clicking **No** saves the working copy on your computer but does not write any changes to the FTVersionTrak repository. The file can be checked in manually by clicking  on the FTVersionTrak toolbar.

Closing 505 WorkShop Files

The procedure to close a 505 WorkShop file is slightly different when the file is protected by FTVersionTrak. Depending on the file's status, FTVersionTrak offers a number of different options to the user to prevent the loss of data.

Closing Programs that are Checked Out

If the program file being closed is checked out to the current user, FTVersionTrak displays a prompt suggesting the file be checked in.



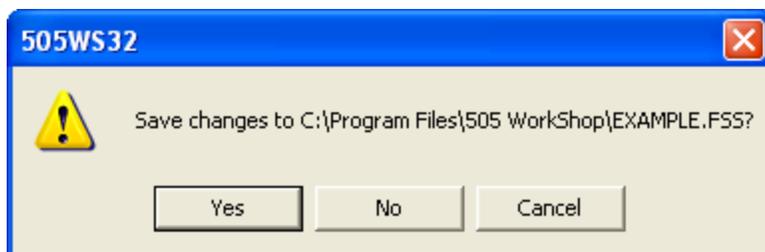
Click **Yes** to display the Check In dialog box. After the file is checked in, the file closes normally. Click **No** to close the file, leaving it checked out.

NOTE: If the file contains edits that have not been saved, 505 WorkShop will prompt the user to save the file before continuing.

Closing Programs that are Checked In

If a program file being closed has been checked in and no edits remain pending, the file closes normally. However, if the file being closed is checked in (or has not yet been checked out) and edits have been made to the program that have not yet been saved, 505 WorkShop will not immediately close the program.

505 WorkShop first prompts the user to save the file.

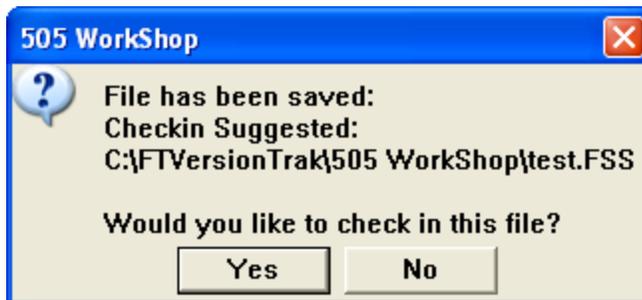


- Click **No** to lose any unsaved changes and close the program.
- Click **Cancel** to cancel the save and keep the program open.

- Click **Yes** to save the file. 505 WorkShop then prompts the user to check out the file.



- Click **No** to display the Save As dialog box and save the file to another file name.
- Click Yes to display the Check Out dialog box.
- Once the file has been checked out, 505 Workshop prompts the user to check the file back in to the repository.



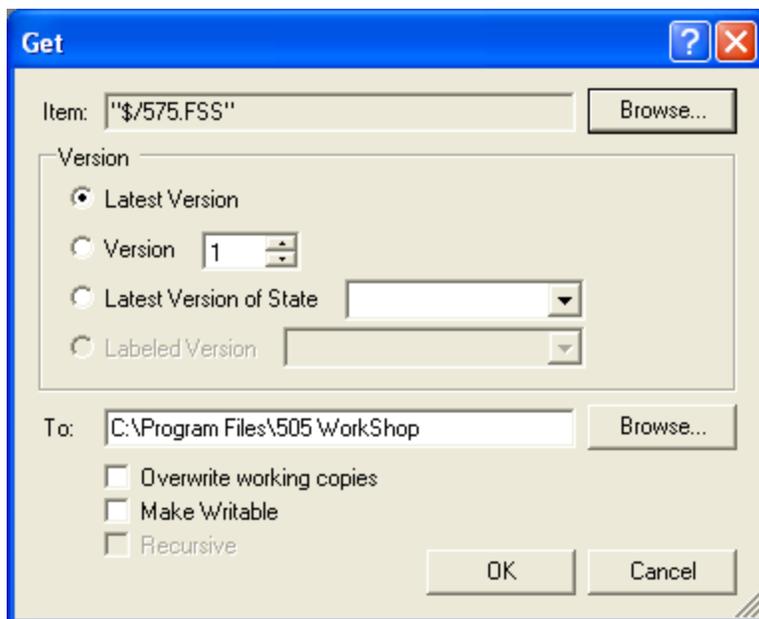
- Click **No** to close the program without writing any changes to the repository. The file is still checked out to the user.
- Click **Yes** to write changes to the repository and close the program.

Getting Versions of a File

The Get action retrieves a version of the active program from the repository and places it in your working directory as a read-only copy to review or check out.

To get a version of the active 505 WorkShop program:

1. Click  on the FTVersionTrak toolbar. The Get dialog box appears.



2. Select the options of the version you would like to get under **Version**:
 - Selecting **Latest Version** places the latest version of the file into your working directory.
 - Selecting **Version** allows you to choose the version you would like to get.
 - Selecting **Latest Version of State** allows you to choose a version with a particular repository file state.
 - Selecting **Labeled Version** allows you to choose a version with a particular label.
3. In the **To** box, enter the directory in which to place the working copy or click **Browse** to locate the desired directory. If a working directory has been set, it appears in the text box. If a working directory has not been set, the text box appears as blank.
4. Select the **Overwrite working copies** checkbox to automatically overwrite any files located within the directory assigned in the **To** box with the Get target files of the same name.
5. Select the **Make Writable** check box to remove the read-only status from the program file.

NOTE: Making working copies writable is not recommended for files you wish to keep under version control. Do not select this option if you plan on checking out and editing the file.

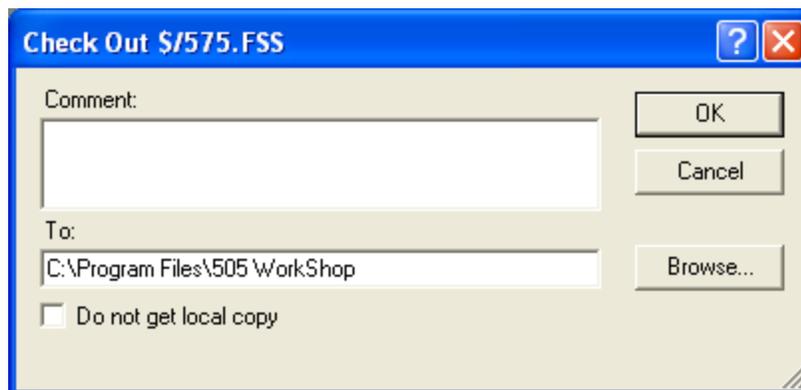
6. Click **OK** when finished. A version of the file is placed in the selected directory.

NOTE: If the path selected in the **To** box is the same as the path of the active program file, the active file will be overwritten even if the Overwrite working copies check box is not selected. If you proceed to overwrite the active program file, the program will exit and any existing changes will be lost. You must open the program again to continue.

Checking Out Files

To make changes to your 505 WorkShop program using FTVersionTrak, it must first be checked out. Checking out a file places a writable copy of the file within the user's working directory. If the file is already present in the working directory (following a Get action, for example) then FTVersionTrak removes the read-only status on the file while it is checked out.

1. Click  on the FTVersionTrak toolbar. The Check Out dialog box appears.



2. In the **To** box, enter the directory in which to place the working copy or click **Browse** to browse for the directory. If a working directory has been set, it appears

in the text box. If a working directory has not been set, the text box appears as blank.

3. Select the **Do not get local copy** check box if you do not wish to get the version of the repository file while checking the file out.

NOTE: Using the **Do not get local copy** option only checks out the file. This is helpful if your working copy is different than the latest version within FTVersionTrak.

4. If you want, enter a comment about the check out within the **Comment** box. This comment may be edited when the file or folder is checked in. Click **OK** when finished.

After checking out a file or folder, the following options are available:

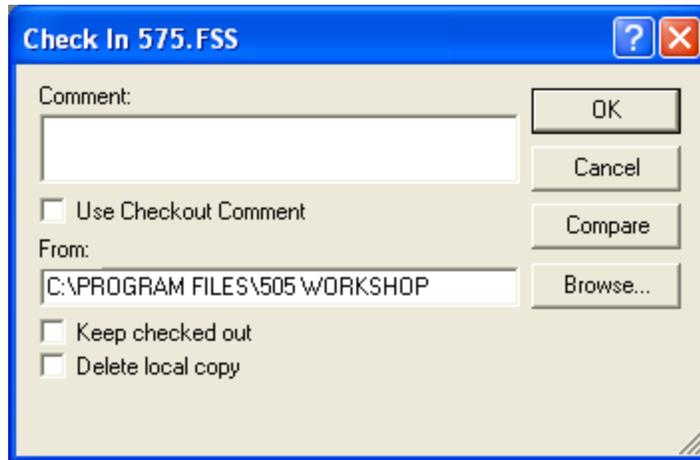
- Check In the file or folder to write any edits to FTVersionTrak and create a new version.
- Undo the Check Out to cancel any changes made to the file or folder.

Checking In Files

Check in the program file to write changes to the master copy located in the FTVersionTrak repository. After you check the file in, other users will be able to Get the modified file, view the changes you have made to the file, and check out the file to work on it as well.

To check in the active 505 WorkShop file:

1. Click  on the FTVersionTrak toolbar. The Check In dialog box appears.



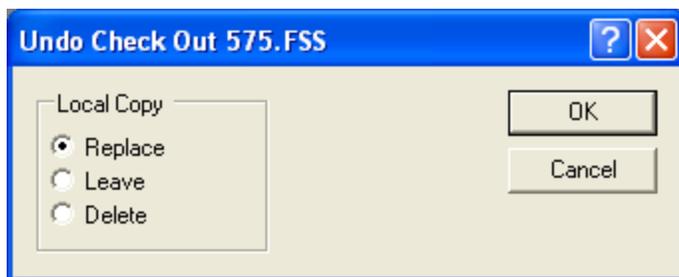
2. In the **Comment** box, type a comment for the check in (optional). If a comment was entered during checkout, it will appear by default in the text box. Select the **Use Checkout Comment** check box to use this comment.
3. The **From:** box will display the local path that the new version will be written from (usually the working directory). Click **Browse** to browse to a different directory.
4. Select the **Keep checked out** check box to write any changes to the repository but keep the program checked out to you.
5. Select the **Delete local copy** check box to remove the working copy on your local system after the check in.
6. Click **Compare** to compare the differences between the version being checked in and another version in the repository.
7. Click **OK** when finished to check in the items.

Undoing a Check Out

Undo the check out if you decide not to save any changes to the repository or create a new version of the 505 WorkShop program. Undoing a checkout leaves the file in the state it was in before you checked it out. No new version is created, and no record of the check-out will be left.

To undo a check out of the active 505 WorkShop program:

1. Click  in the FTVersionTrak toolbar. The Undo Check Out dialog box appears.



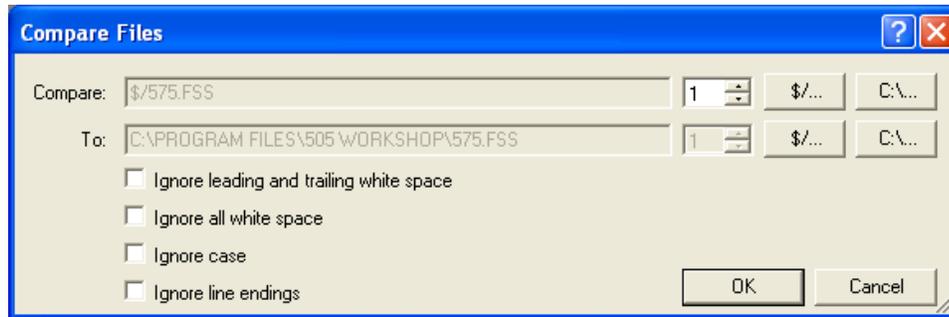
2. Select a Local Copy option:
 - Select **Replace** to replace the local copy of the checked out file with the latest version within the repository.
 - Select **Leave** to leave the existing copy of the checked out file on your local system.
 - Select **Delete** to delete the local copy from the checkout location. If the file was checked out to a location other than the working directory, the location indicated at check out will be deleted and any other copies will be retained.
3. Click **OK** when finished to return to the main window.

Comparing 505 WorkShop Files

One of the most useful features of FTVersionTrak is the ability to compare the contents of two 505 WorkShop files to each other. Within 505 WorkShop, you may compare two different versions of the same 505 WorkShop program to each other, or compare a version in the FTVersionTrak repository to the working copy on your local hard drive.

To compare the working copy of the active 505 WorkShop program to the latest version in the repository:

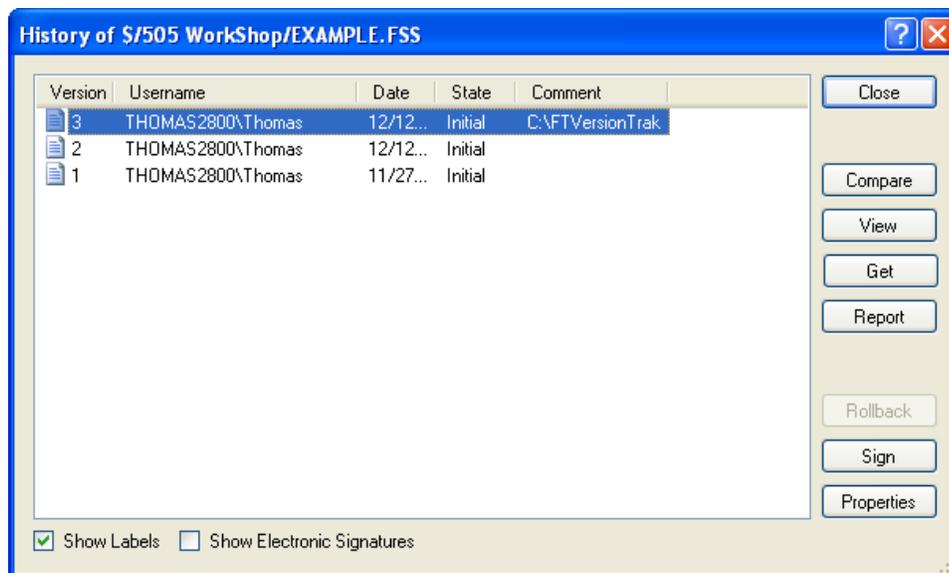
1. Click the  button on the FTVersionTrak toolbar. The Compare Files dialog box appears.



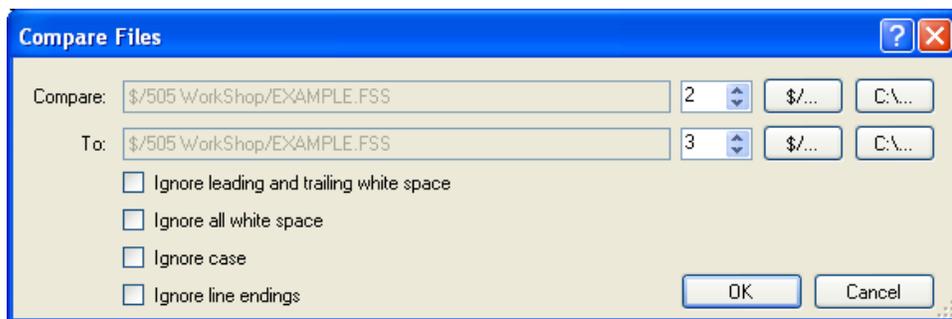
2. Click **OK** to view the file compare results. See the FTVersionTrak documentation for more information on file compare results.

To compare the difference between two version of the active 505 WorkShop program:

1. Click  on the FTVersionTrak toolbar. The History dialog box appears.



2. Select the first version of the file you would like to compare. Hold down the **CTRL** key and select the second version of the file you would like to compare. Click **Compare**. The Compare Files dialog box appears.



- The check box options apply only to text file comparison and can be ignored when comparing 505 WorkShop files.
3. Click **OK** to view the file compare results. See the FTVersionTrak documentation for more information on file compare results.

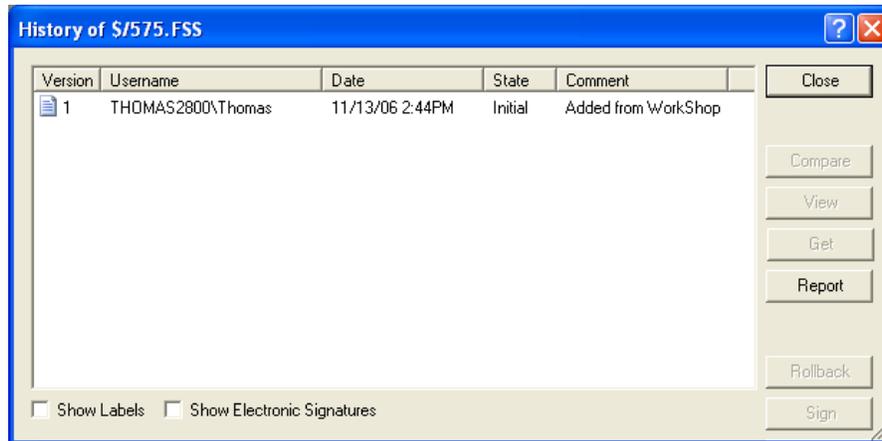
NOTE: Clicking **Compare** without selecting more than one version will compare the selected version to the working copy. Clicking **Compare** without selecting any version will compare the latest version to the working copy.

Viewing File History

Each 505 WorkShop file that is managed by FTVersionTrak is given its own history. As you check out, edit, and check in your programs, the history is updated to reflect these changes. Viewing history is the best way to get a clear picture of the changes a program has gone through.

To view the active 505 WorkShop program's version history:

1. Click  in the FTVersionTrak toolbar. The History dialog box appears.



2. The History dialog box displays all the version information of the selected file. Each version displayed in the History dialog box contains the following information:
 - **Version** - The version number of the listed version.
 - **Username** - The name of the user that created the listed version.
 - **Date** - The date and time the listed version was added to the repository.
 - **State** - The version state of the file when it was added to the repository.
 - **Comment** - The contents of the optional comment created when the file was checked in.
3. The following two optional version histories may be viewed by selecting the appropriate check boxes at the bottom of the History dialog box:
 - **Show Labels** - Select this option to display any associated labels with the repository file. Each label will appear as a separate version of the file, with the tag *Label* substituted for the version number.
 - **Show Electronic Signatures** - Select this option to display any associated electronic signatures with the repository file. Each signature will appear as a separate version of the file, with the tag *Signature* substituted for the version number.
4. The buttons on the right side of the History dialog box are used to manage a file's history:
 - **Close** - Closes the History dialog box and returns to the main window.

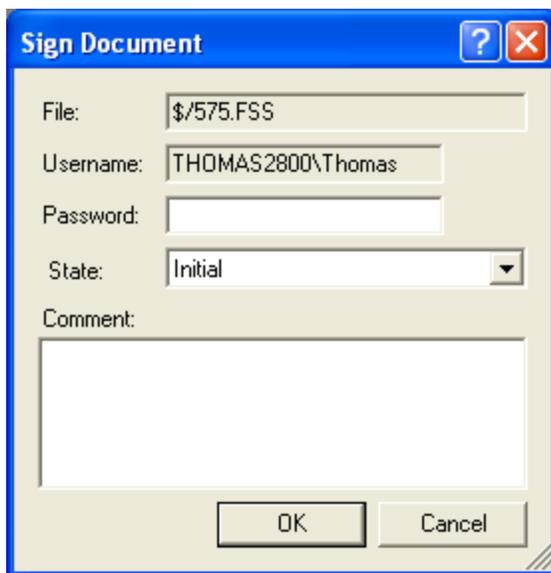
- **Compare** - Selecting a version and clicking **Compare** will compare the selected version with the copy in the user's working directory. Selecting two versions and clicking **Compare** will compare the two versions to each other.
- **View** - Launches the application associated with the selected version, and opens the version of the file within the application as a read-only document.
- **Get** - Retrieves the selected version of the file to the user's local working directory.
- **Report** - Generates a history report of the selected repository file.
- **Rollback** - Reverts the most recent version of the repository file to the selected version. Rollback is only available if the file has more than one version, and can only be selected when a version other than the latest version is selected.
- **Sign** - Electronically signs the selected version of the file, and allows the option to change the version state.
- **Properties** - View the properties of the selected version, and allow the option to change the version comment.

Electronically Signing 505 WorkShop Files

Electronic signatures can be used as an approval method to verify that a certain user has seen a selected version of a repository file, and can also be used to advance the version state of the repository file. FTVersionTrak's electronic signatures conform with portions of FDA 21 CFR Part 11 regulations.

To electronically sign the active 505 WorkShop program:

1. Click  on the FTVersionTrak toolbar. The Sign Document dialog box appears.



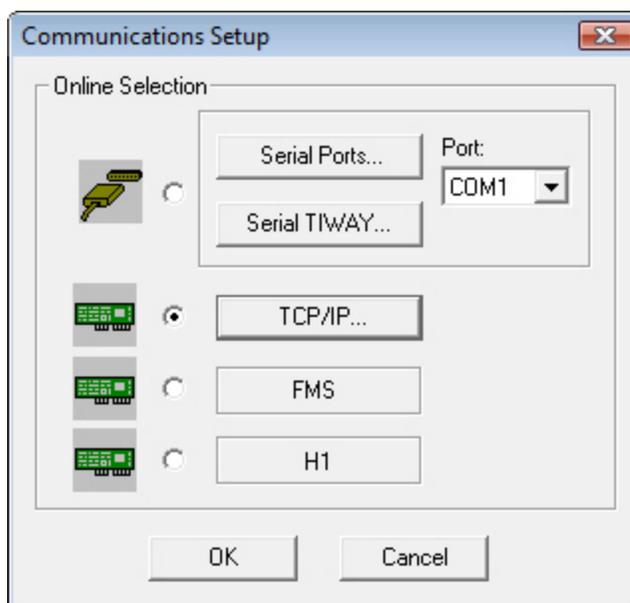
2. The **File** and **Username** boxes are filled with the selected file and current user, respectively. Type the current user's password in the **Password** box.
3. Select the current version state of the file from the **State** box and type any comments in the **Comment** box (optional).
4. Click **OK** when finished to return to the main window.

Chapter 3 – Using 505 WorkShop

Setting Up Communications

Pre-configure serial ports, a modem board, or network interface boards in the PC for use with a SIMATIC 505 PLC. To configure communications:

1. Click **Communications Setup** from the **File** menu. The **Communications Setup** dialog box appears.



2. Select the appropriate PLC communications to be set up.

Fast PLC Connection Setup

Prior to connecting using Fast PLC Connection for the first time, the PLC connection must be set up.

1. Click **Fast PLC Setup** from the **File** menu. The **Fast PLC Connection** dialog box, which is identical to the **Communications Setup** dialog box, appears.
2. Select the appropriate communication port to configure and select the serial port or board for communication with the PLC.

Online/Offline

Programs can be opened and edited within a file (offline) or in the PLC (online).

In **Offline mode**, logic, data, configuration, and documentation is edited in the *.FSS file without involving the PLC in any way.

In **Online mode**, the program is edited in the PLC. Logic, data, and configuration are read from the PLC memory, and the associated documentation is read from the *.FSS file, which is the file name extension used by 505 WorkShop.

 Warning	Editing or modifying a program online may produce unexpected or hazardous results.
--	---

505 WorkShop offers the following options for working with programs online:

Using Fast PLC Connect	Logic, data, and configuration are read from the PLC memory. Documentation will not be associated with the program.
Connecting Online with a Program File	Logic, data, and configuration are read from the PLC memory, and associated documentation from the *.FSS file.

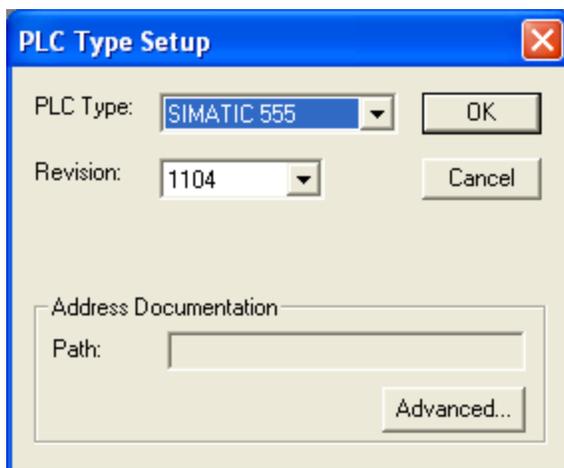
Loading a File to the PLC	Logic, data, and configuration from the *.FSS file are downloaded to the PLC, and associated documentation is read from the *.FSS file.
Transferring an Offline Program Online	Logic, data, and configuration from a *.FSS file that has already been opened are transferred to the PLC, and associated documentation is read from the *.FSS file.
Loading Parts of a File Online	Individual program components from the *.FSS file are transferred to the PLC, and associated documentation is read from the *.FSS file.
Saving a Program from the PLC to Disk	Logic, data, and configuration from the PLC are uploaded to the *.FSS file and saved with any existing documentation.

505 WorkShop allows both online and offline programs to be open at the same time. All programs are opened / loaded from the **Open** dialog.

Creating a New Program

New programs are created in offline mode only. To create a new logic program and begin programming:

1. Click **New** from the **File** menu, click the  toolbar button, or press [CTRL+N]. The **PLC Type Setup** dialog box appears.



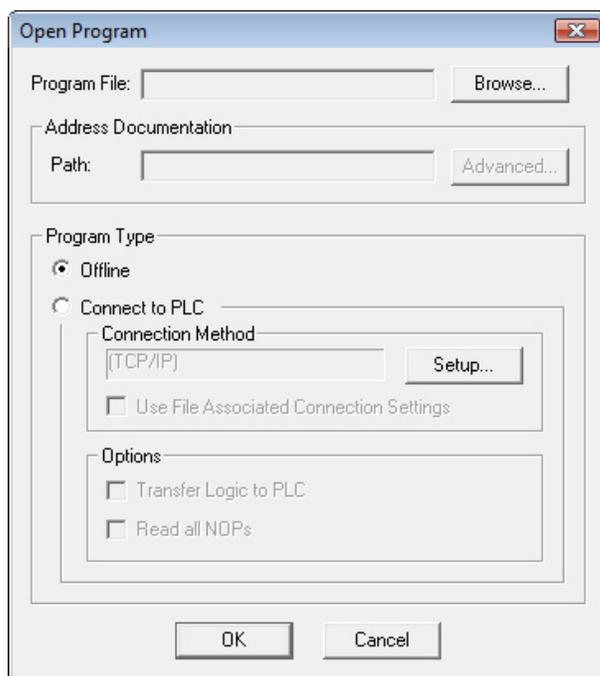
2. Select the **PLC Type** and **Revision** corresponding to the PLC to be used.
3. By default, documentation is saved with logic, data, and configuration in the same *.FSS file. However, documentation can be shared with other applications and programs by saving it in a separate database file. Click the **Advanced** button to display the **Shared Address Documentation** dialog box and specify the separate database file.

NOTE: Programs cannot be saved in demo mode.

Opening a File Offline

Logic, data, configuration, and documentation can be edited in the *.FSS file without involving the PLC in any way. To open an existing *.FSS file offline:

1. Click **Open** from the **File** menu, click the **Open** toolbar button , or press **CTRL+O**. The **Open Program** dialog box appears.



2. Click **Browse** and select the *.FSS file.
3. Select the **Offline** option button.

Converting a *.VP5 Program

*.VP5 is the file extension used by TISOFT files. To convert a *.VP5 program:

1. Click **Open** from the **File** menu, click the **Open** toolbar button , or press **CTRL+O**. The **Open Program** dialog box appears.
2. Click **Browse** and select the *.VP5 program to be converted. The logic and documentation of the *.VP5 file are imported into a new offline program. The new offline program is saved as a *.FSS file.

NOTE: Programs cannot be saved in demo mode.

Going Online

Using Fast PLC Connect

Fast PLC Connect is used to read logic, data, and configuration read from the PLC memory. Since no .FSS file is opened in a Fast PLC connection, no documentation will be associated with the program. Prior to connecting via Fast PLC Connect the first time, the PLC connection needs to be set up.

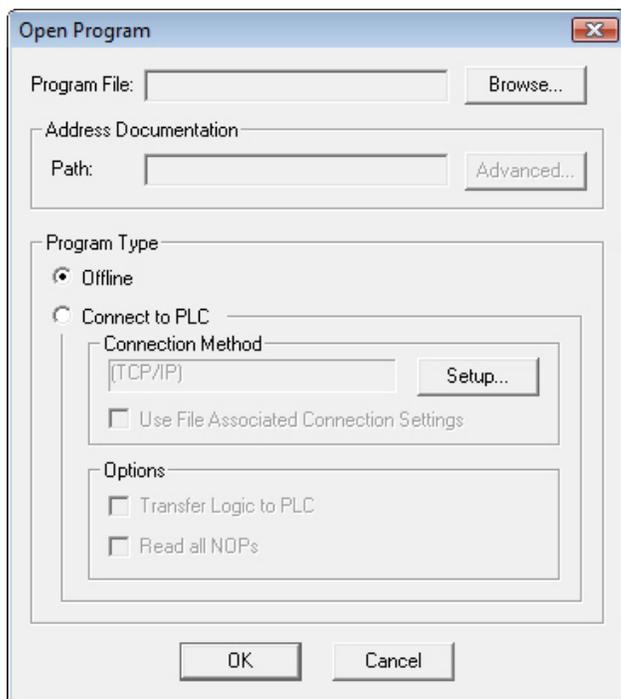
To connect online to a PLC, click **Fast PLC Connect** from the **File** menu or click the  toolbar button.

Connecting Online with a Program File

Connecting online with a program file allows logic, data, and configuration to be read from the PLC memory and associated documentation to be read from the *.FSS file.

To connect online with a PLC:

1. Click **Open** from the **File** menu, click the **Open** toolbar button , or press **CTRL+O**. The **Open Program** dialog box appears.



2. Click **Browse** and select the *.FSS file.
3. Select the **Connect to PLC** option button.
4. Click **Setup** and configure the PLC communication options.

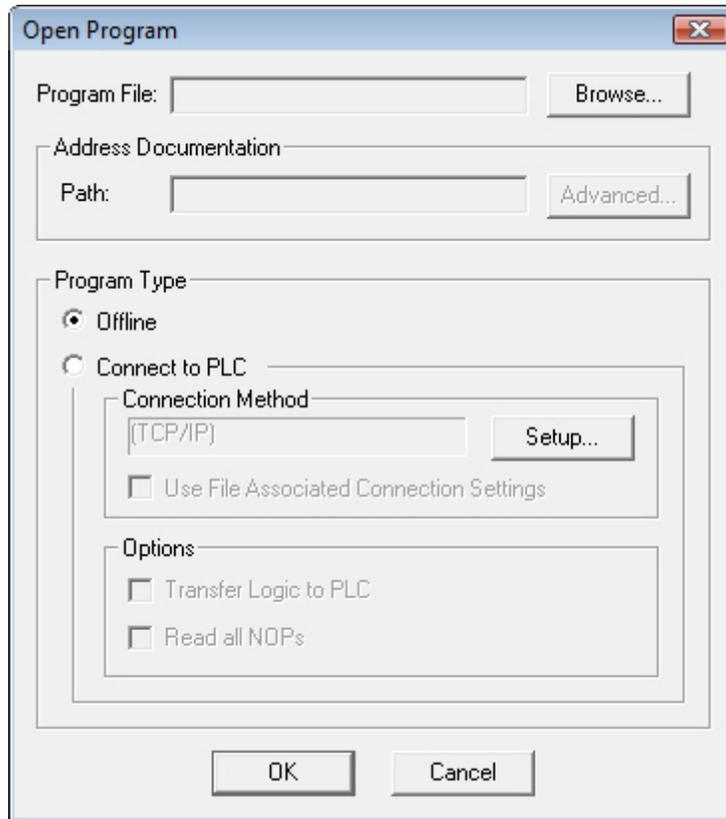
 Warning	To load the logic, data, and configuration from the *.FSS file into the PLC, select the Transfer Logic to PLC check box. Any logic, data, and configuration within the PLC memory will be overwritten.
--	---

Loading a File to the PLC

Loading a program allows logic, data, and configuration from the *.FSS file to be downloaded to the PLC. Associated documentation will be read from the *.FSS file.

To load an existing program into an online PLC:

1. Click **Open** from the **File** menu, click the  toolbar button, or press **CTRL+O**. The **Open Program** dialog box appears.



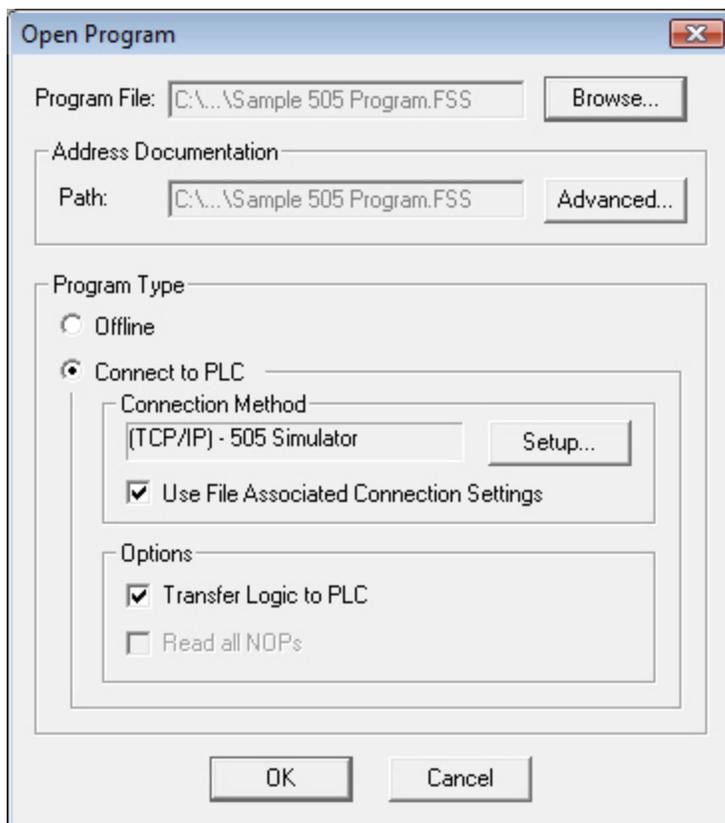
2. Click **Browse** and select the program to be loaded into the PLC.
3. Select **Connect to PLC**.
4. Select the **Transfer Logic to PLC** check box.

 Warning	Logic, data, and configuration from the *.FSS file will overwrite logic within the PLC memory.
--	--

Transferring an Offline Program Online

Logic, data, and configuration from a program that has been opened in offline mode can be transferred to the PLC.

To transfer an existing open offline program to the PLC, click **Transfer -> Online** from the **File** menu. The **Open Program** dialog box appears with the file path and name of the offline program displayed in the **Program File** box, the **Connect to PLC** option selected, and the **Transfer Logic to PLC** check box selected.



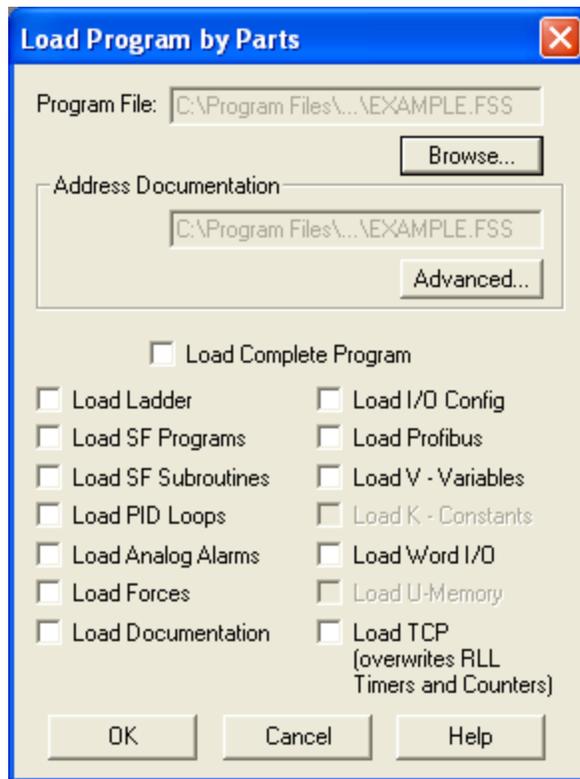
 Warning	Any logic, data, and configuration within the PLC memory will be overwritten. Documentation will also now be associated with the file being transferred.
--	--

Loading Parts of a File Online

Individual program components from the *.FSS file can be downloaded to a PLC.

To load program components into a PLC:

1. Establish an online connection with the PLC.
2. Click **Load By Parts** from the **File** menu. The **Load Program by Parts** dialog box appears.



3. Click **Browse** and select the program to be loaded into the PLC.
4. Select the check boxes of the program parts to be loaded, or select the **Load Complete Program** check box to load all parts.

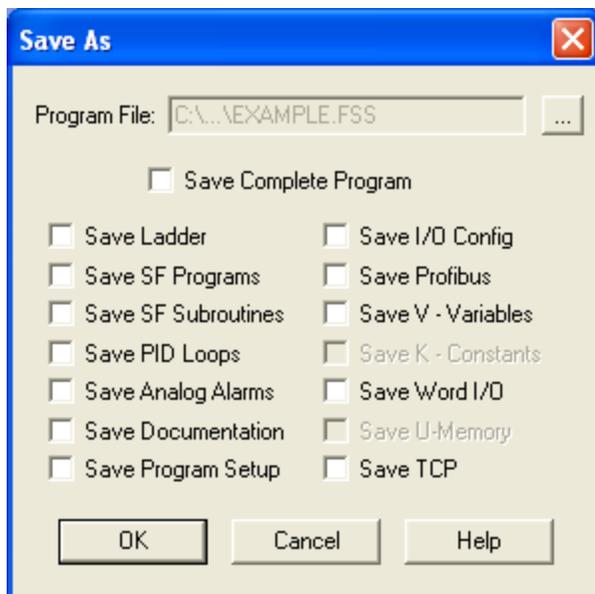
 Warning	Program components that are loaded from the *.FSS file will overwrite any program components within the PLC memory. Programs cannot be loaded by parts in demo mode.
--	--

Saving A Program from the PLC to Disk

Logic, data, and configuration from the PLC memory can be saved/uploaded to a *.FSS file.

To save a program in the PLC to a file:

1. While online, click **Save As** from the **File** menu, click the  toolbar button, or press **CTRL+S**. The **Save** dialog box appears.



2. Select the check boxes of the program components to be saved.

 Warning	The *.FSS file will be overwritten. Programs cannot be saved in demo mode.
--	--

Programming Ladder

Using Edit Mode and Validate and Enter

When editing logic, the ladder is placed in **Edit mode**. Edit mode is indicated by a change in background color. In Online mode, a network in Edit mode is held in a special buffer outside the actual program, and the original network remains temporarily unchanged.

When edits have been completed, **Validate and Enter** the changes by clicking **Validate and Enter** from the **Program** menu, clicking the check mark  toolbar button, or pressing **F8**. 505 WorkShop validates the changed networks, and if the networks are valid, enters them in the actual program. If necessary, 505 WorkShop displays a dialog box so the PLC can be stopped. In either Online or Offline mode, the network background color returns to the normal display.



Warning

The validation only examines the edited network. It is possible for changes in one network to affect another, causing unexpected results.

Inserting a New Network

To insert a new network in the active logic program window:

1. Click the  toolbar button. The new network attaches to the mouse pointer.
2. Click on the logic program in the location where the new network is to be placed. The new network is inserted, and the pointer returns to an arrow.

Appending a New Row

To add a new row to a network in the active logic program window:

1. Click the  toolbar button. The new row attaches to the mouse pointer.
2. Click on the logic program in the location where the new row is to be placed. The new row is inserted, and the pointer returns to an arrow.

Entering Ladder Instructions

To enter ladder instructions by selecting the appropriate instruction from the **Instruction Bar**:

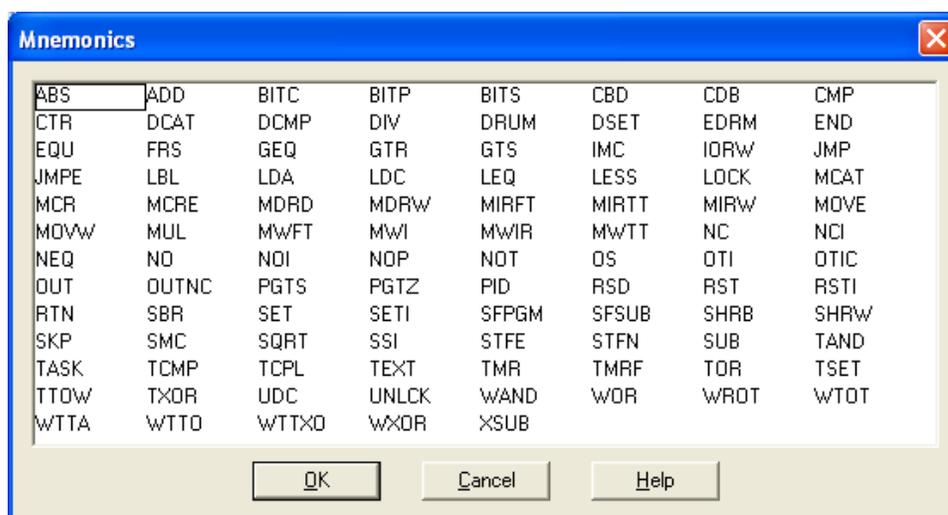


1. Click on the appropriate Instruction Group (for example, Relay) on the **Instruction Bar** to display the instructions within that group.
2. Select an instruction by clicking it. The instruction attaches to the mouse pointer.
3. Click on the logic program in the location where the instruction is to be placed. The instruction is inserted, and the pointer returns to an arrow. If the instruction cannot be placed in that location, an error message is displayed.

Typing Mnemonic Instructions

Instructions can be entered using mnemonics. To enter an instruction mnemonic:

1. Place the cursor at a location, enter the instruction mnemonic, and press **ENTER**.
2. To display a list of instruction mnemonics, press **?** and then press **ENTER**. The following **Mnemonics** dialog box appears.



3. Select a mnemonic by double-clicking it or by using the arrow keys to select it and then pressing **ENTER**.

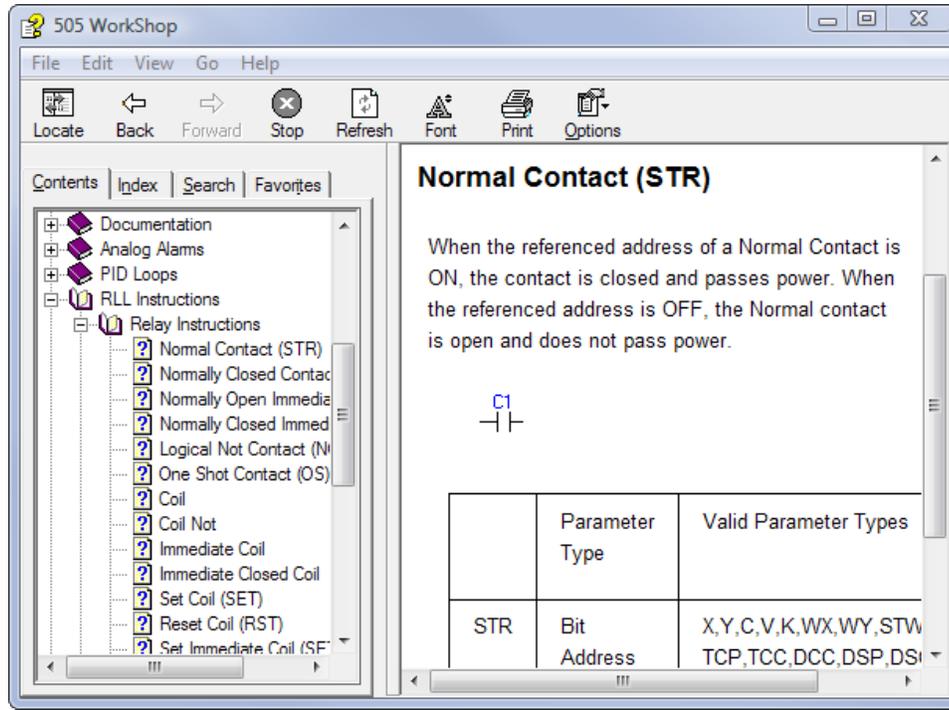
TIP: The Mnemonics dialog box will also appear if an invalid mnemonic is entered.

Obtaining Help

When working in the logic program, help text regarding specific instructions can be quickly referenced. To display help text:

1. Click on the  toolbar button. A question mark attaches to the mouse pointer.
2. Click on the desired instruction within the logic program. The help text related to that instruction will appear in a separate window, and the pointer will return to arrow.

For example, clicking on  with the  toolbar button will display the following help text:



Chapter 4 – Using 505 Simulator

Simulator Overview

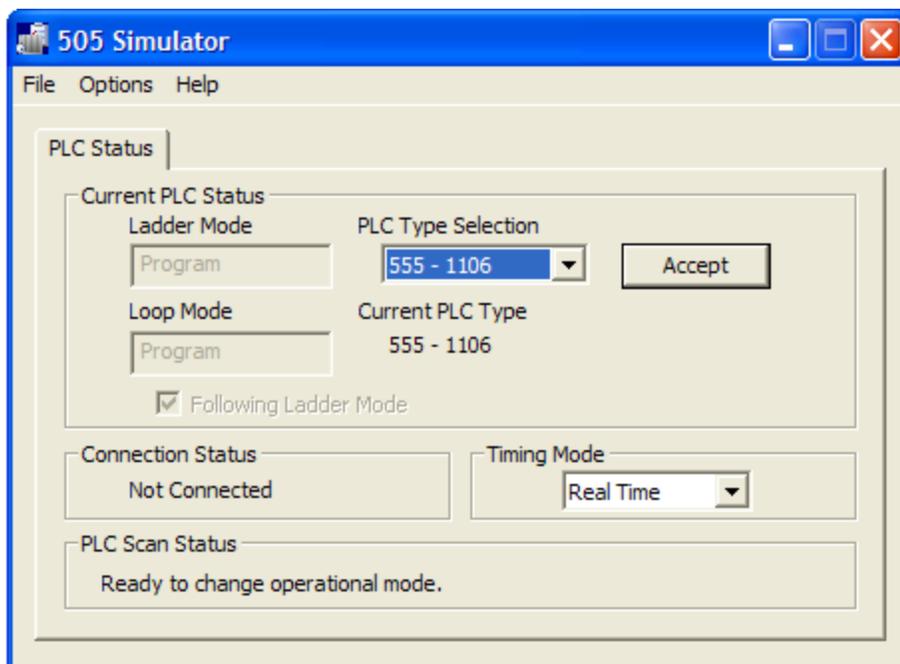
505 Simulator is designed to run and test 505 ladder logic, special functions, PID loops, Analog alarms, and simulated I/O without the use of a PLC.

Starting Simulator

Use any of the following methods to start the 505 Simulator:

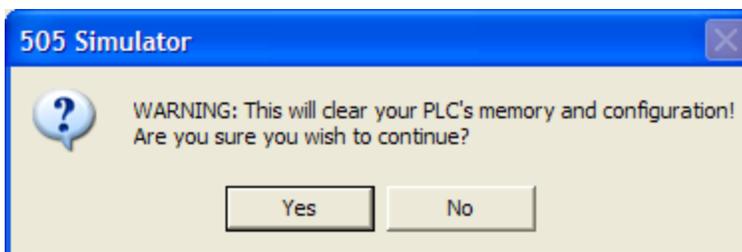
- Within 505 WorkShop, click **505 Simulator** from the **View** menu.
- Within 505 WorkShop, click the **Simulator button**  on the main toolbar.
- Start Windows, click the **Start** button, click **All Programs**, click **FasTrak SoftWorks**, and then click **505 Simulator**.

After starting, the 505 Simulator Window is displayed:



Selecting PLC Type

1. In the **PLC Type Selection** box, select the PLC type you want to simulate.
2. Click **Accept**. The following warning appears:

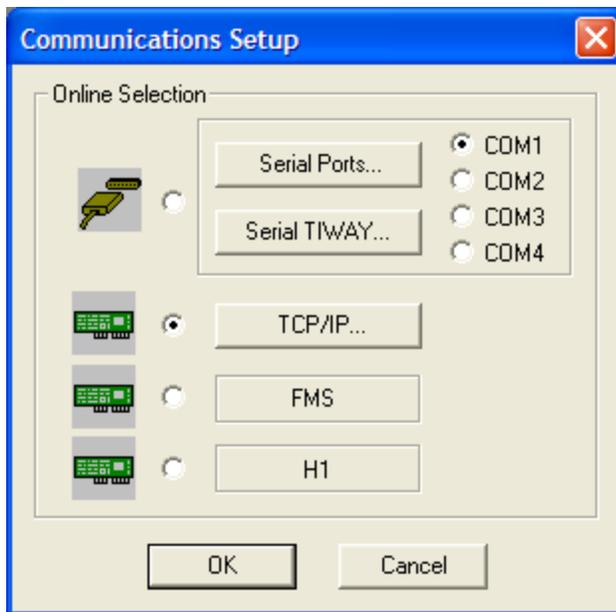


3. Click **Yes**. The simulator is now simulating the PLC type you selected.

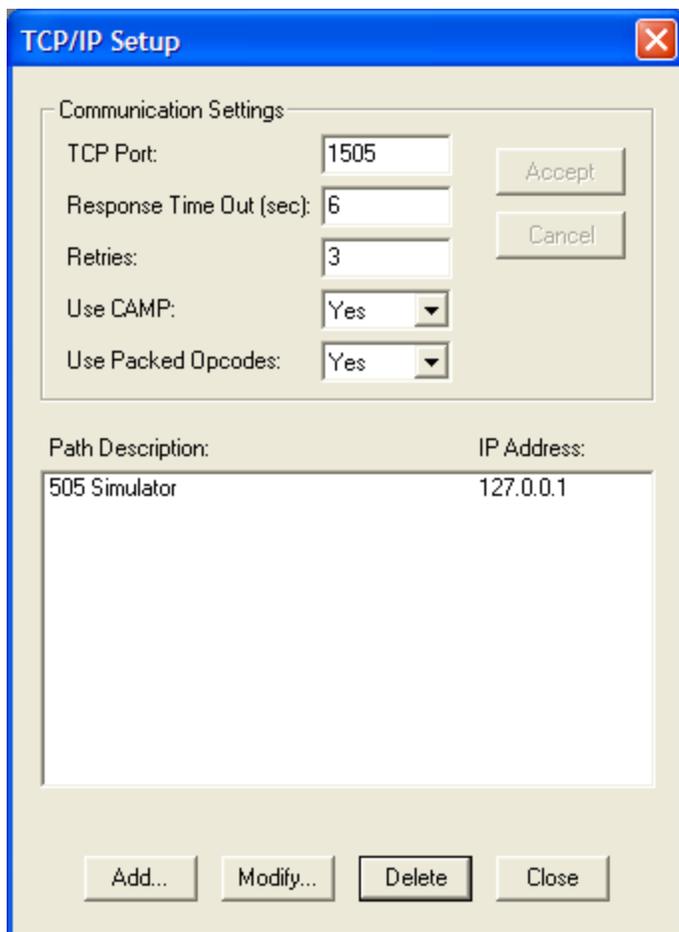
Setting Up Communications with Simulator in 505 WorkShop

505 Simulator uses the TCP/IP communication method to communicate with 505 WorkShop. Do the following to create a new TCP/IP connection in 505 WorkShop to connect to the simulator:

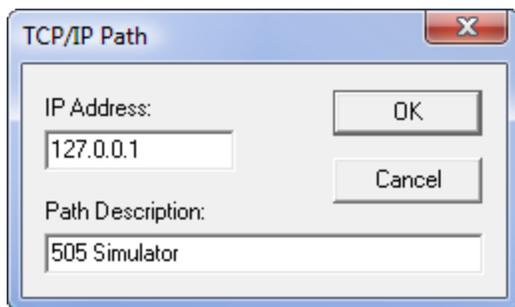
1. In 505 WorkShop, click **Communications Setup** from the **File** menu. The Communication Setup dialog box appears.



2. Click the **TCP/IP** button. The TCP/IP Setup dialog box appears.



3. Under **Communication Settings**, enter 1505 in the **TCP Port** box. **The TCP Port must be set to 1505 to enable connection with the simulator.** The other communication settings can be changed as needed; refer to the 505 WorkShop online help for additional information.
4. Click **Add**. The TCP/IP Path dialog box appears.



5. In the **IP Address** box, enter 127.0.0.1.
6. In the **Path Description** box, enter a description that identifies the 505 Simulator, such as 505 Simulator.
7. Click **OK**.

Connecting to 505 Simulator

Prerequisites

In order to connect to the 505 Simulator, both 505 WorkShop and 505 Simulator must be currently running. In addition, within 505 WorkShop, a TCP/IP communication method that uses an IP address of 127.0.0.1 must be created.

Connecting

Once these prerequisites have been met, connecting to the simulator is identical to going online with an actual PLC. Within 505 WorkShop, click **Open** from the **File** menu, or click the **Open** button  on the main toolbar.

Note: 505 Simulator must be running before attempting to connect to it.

