

# ***GETTING STARTED***



September 2004

983-0724-003

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## Purpose and Features

Data I/O created and hosts an application on the World Wide Web for developing device support. **electronic Device Support Suite**, or **eDSS**, creates and manages files that support programming specific semiconductor devices on Data I/O products with FlashCORE programmers including FlashPAK, RoadRunner, PS288FC and PS300FC systems. This **Getting Started Guide** provides information about setting up **eDSS** hardware and software.

The **eDSS** application:

- Searches for existing device supports
- Allows creating a new device support by cloning an existing device support
- Aids in creating Sector Tables and choosing Adapter Kits
- Allows selecting Special Features such as Bad block schemes for NAND devices
- Produces Algorithm Load Modules by using your Algorithm and DevParms files
- Makes Linked-In Algorithms for debugging
- Manages multiple users and security levels
- Allows control of system versions, one-time-programmable (OTP) sectors, and sector protection
- Saves the resulting files in a specified directory

## Computer System

Your computer system must meet these requirements:

- IBM compatible PC (minimum processor: Pentium III or comparable)
- Microsoft Windows operating system 98SE or higher (Windows XP recommended)
- 256 MB or more RAM recommended
- 1.2 GB free hard disk space
- Internet connection (Broadband Synchronous 128 Kbit/sec or faster recommended)
- CD-ROM drive
- PC-based PCMCIA card reader/writer (external USB or Internal ISA/PCI)
- Parallel port
- Internet Explorer 6.0 or higher
- Macromedia Flash Player Version 7.0 or higher

## **STEP 1:** **Check** **Contents** **of eDSS** **Boxes**

Open the **eDSS** boxes and verify that you received the following:

- Getting Started Guide (Data I/O PN 983-0724-003)
- Certification of Conformance (Data I/O PN 090-0732-002)
- FlashPAK Developer Station (Data I/O PN 901-0121-004 or later, with Power Cord and connections for the Developer Board and the optional debugger interface)
- Parallel Port Cable (Data I/O PN 411-0197-001)
- PCMCIA ATA Flash Card (Data I/O PN 489-0001-003)
- FP-PAK-T009 48TSOP Adapter (Data I/O PN 941-0287-004)
- FlashPAK Operator's Guide (Data I/O PN 096-0239-003)
- FlashPAK CD (Data I/O PN 326-0628-001)
- Developer Board (Data I/O PN 701-3691)
- Universal Developer Adapter (Data I/O PN 701-3707-002)
- Jumper Cables (Data I/O PN 709-0586-002)
- Vacuum tool
- Allen wrench (4 mm)

## **STEP 2:** **Set Up** **FlashPAK** **Developer** **Station**

1. Unpack the FlashPAK Developer Station.

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**NOTE:** Use ESD precautions. Plug an ESD strap into the back of the FlashPAK Developer Station before handling Socket Adapter or devices.

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2. Lift off the Actuator Cover.

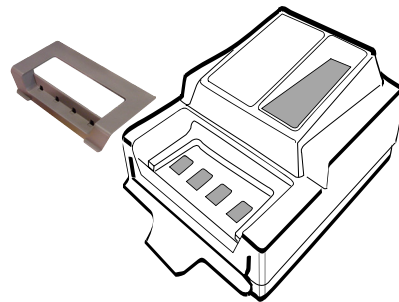


Figure 1—Lift off Actuator Cover

3. Unbox the Socket Adapter.

4. Lift the bracket open and install the Socket Adapter onto the dowel pins.

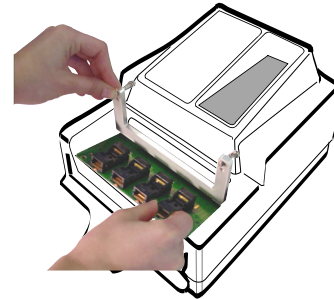


Figure 2—Install Socket Adapter

5. Lower the bracket and screw in two screws. An Allen wrench (hex key) is included.

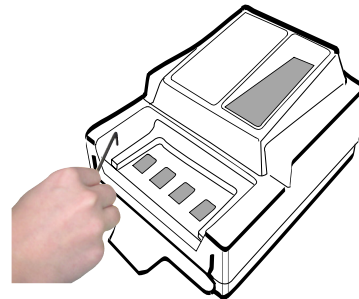


Figure 3—Attach bracket

6. Re-install the Actuator Cover.
7. Plug in the Power Cord.
8. Plug the FlashPAK Developer Station ribbon cable into the Developer Board.

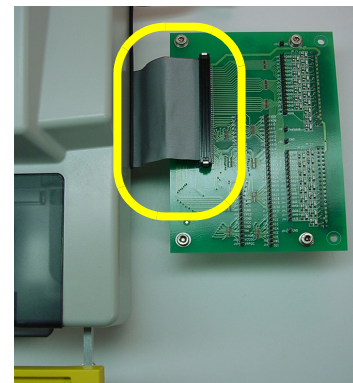


Figure 4—FlashPAK Developer Station connection to Developer Board

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**NOTE:** For instructions on how to set up the Universal Developer Adapter, see “developer adapter” in **Device Support Training**. (See page 20 for help in opening and using **Device Support Training**.)

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## STEP 3: Set Up eDSS

1. Launch Internet Explorer.
2. Open a version of **eDSS**:
  - For training purposes, go to <https://dsds.dataio.com/> (you need only a User Name and Password).
  - For authentic device support creation, go to <https://edss.dataio.com/> (you need a Data I/O account as well as a User Name and Password).
3. Click Yes to the Security Alert.

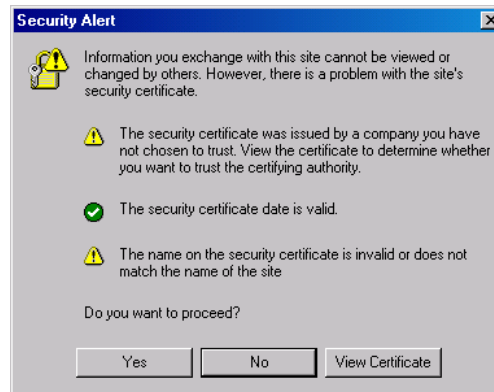


Figure 5—Security Alert

4. Add **eDSS** to your Internet Explorer favorites.

**NOTE:** See your **eDSS** Administrator for your User Name and Password. You will need these to log on.

5. At the **Logon** window, enter your User Name and Password, and select your Role. Click Sign In.



Figure 6—Logon Window

6. Click the Tutorial icon on the **eDSS** icon bar.

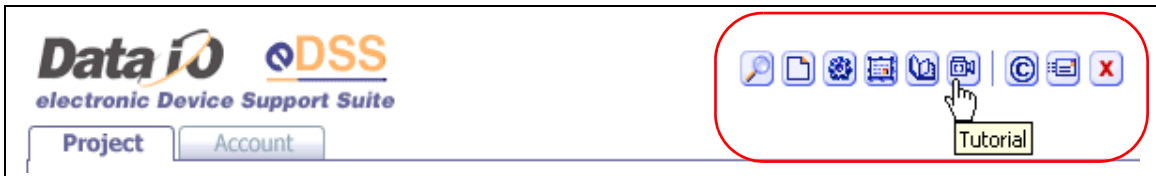


Figure 7—Click Tutorial icon

7. On the next window, click Browser Setting:



Figure 8—Click Browser Setting

**NOTE:** If your PC does not have Macromedia Flash player installed, you will be asked if you wish to install it. Follow the prompts to install.

8. Follow the instructions in **Browser Setting** to configure your Internet Explorer browser for the most efficient use of **eDSS** tools.
9. **Optional:** You can install a root certificate stating that Data I/O is a trusted source. This certificate eliminates warnings when you sign in. You need to install this only once.

To install the root certificate:

- 9a) Click the Root Certificate icon in the **eDSS** icon bar.

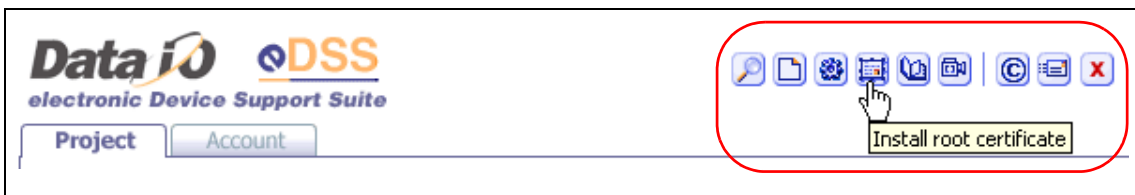


Figure 9—Click Root Certificate icon

- 9b) Select Open.
- 9c) Follow the prompts to install.

## STEP 4: Connect Debugger Interface

If you do source level debugging of algorithm code, purchase either a Node Locked License or Floating License copy of “SingleStep Blackbird Debugger for PPC 8xx” from Wind River, which includes the SingleStep debugger software and the interface hardware.

Wind River part numbers are:

- Part # WIN-BBMPP8-NL (Node Locked License)
- Part # WIN-BBMPP8-FL (Floating License)

Contact Wind River at <http://www.windriver.com/>

To use the debugger, complete “STEP 4: Connect Debugger Interface,” “STEP 5: Install Debugger Software,” and “STEP 6: Configure Debugger Software.”

To connect the debugger interface:

1. Plug the debugger interface cable into the FlashPAK Developer Station cable.

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**NOTE:** Align the red stripes on the two cables.

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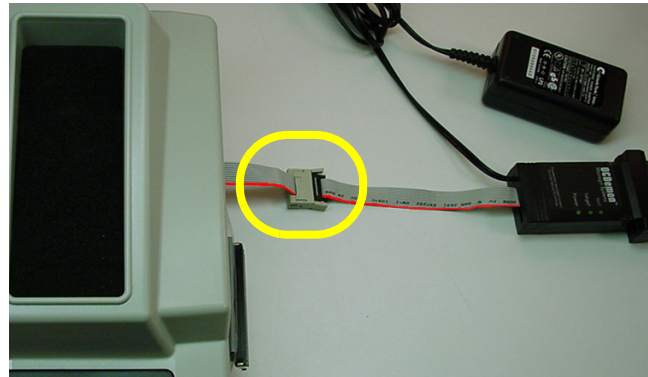


Figure 10—FlashPAK Developer Station connection to debugger interface cable

2. Using the Parallel Port Cable, connect the debugger interface to your PC.
3. Plug the Power Supply Unit into the debugger interface and plug in to a power outlet.

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**NOTE:** If you wish to use the FlashPAK Developer Station without the debugger, remove power to the debugger. The Parallel Port Cable between the debugger and your PC may remain connected even when the debugger is not in use.

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## STEP 5: Install Debugger Software

1. Close all other programs.
2. Insert the **SingleStep 7.6.2** CD into your PC's CD-ROM drive.

**NOTE:** You may see an error message telling you that it cannot find **projectr.exe**. Close the error message box. This error occurs because the CD assumes that the Unix environment is the default setting.

3. Using Windows Explorer, go to your CD drive and browse to the **PC\Release** directory. Run **setup.exe** in this directory. The splash screen appears. Click **Next>** on the **Welcome** window.

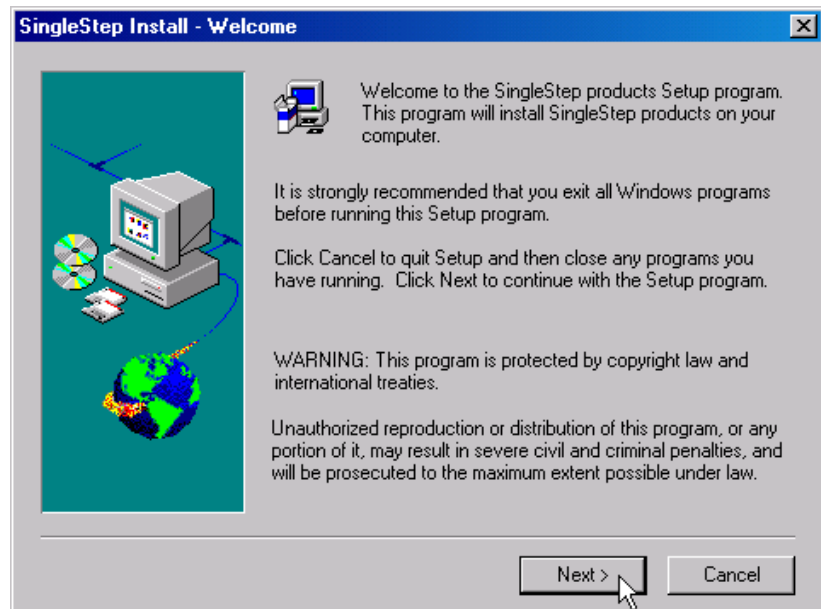


Figure 11—Click Next

4. Click **Yes** on the **Software License Agreement** window if you accept.

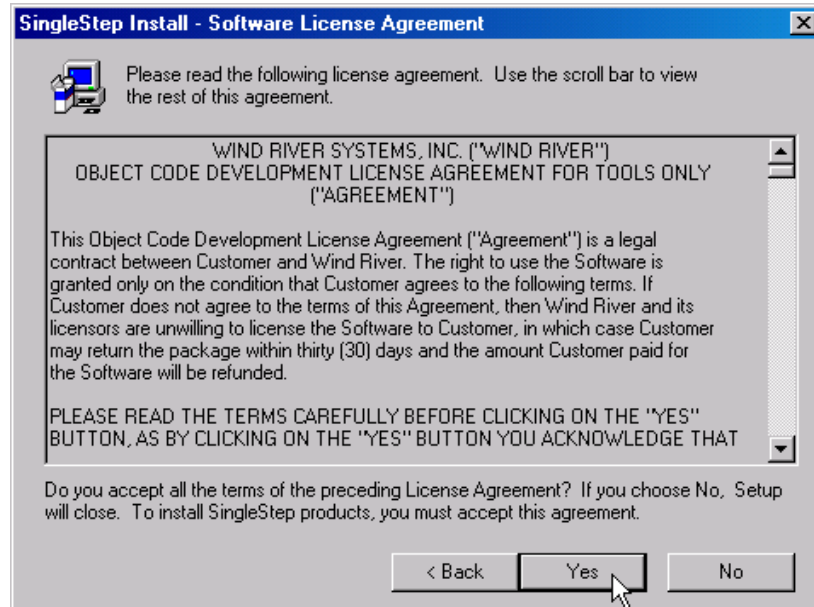


Figure 12—Click Yes to accept license agreement

5. Select **Typical** on the **Choose Product Install Type** window. Click **Next>**.

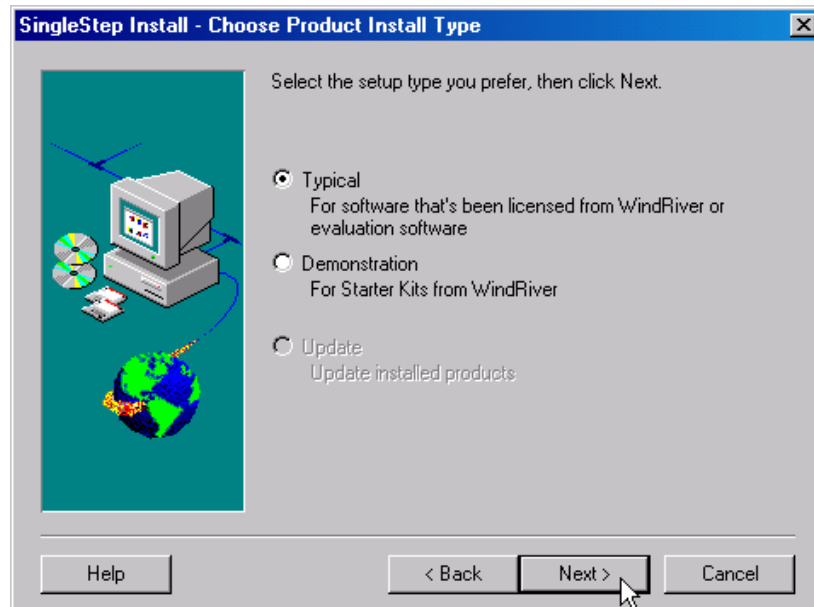


Figure 13—Select Typical

6. Select Stand Alone on the **Select Licensing Type** window. Click Next>.

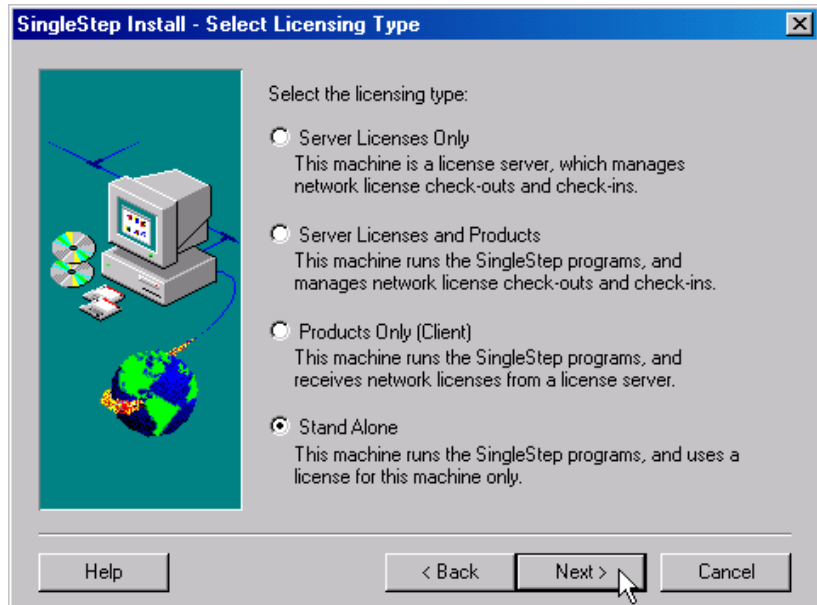


Figure 14—Select Stand Alone

7. Select Single Step On Chip (MPC8xx) (has device driver) on the **Select Products to Install** window. Click Next>.

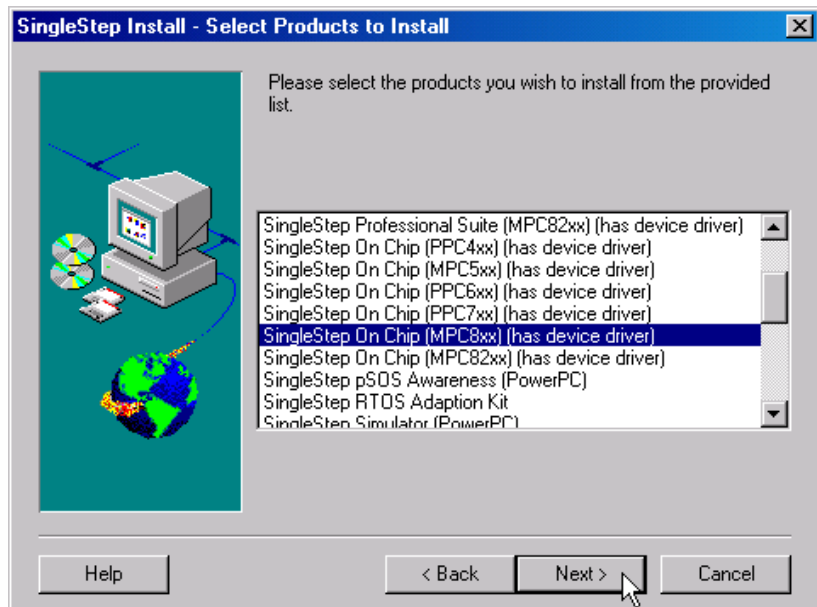


Figure 15—Select SingleStep On Chip (MPC8xx) (has device)

8. The default path for the Destination Directory is **c:\sds762** on the **Choose Destination Location** window. Use the **Browse** button to change the location if this is not what you want. Click **Next>** when you are satisfied with the Destination Directory.

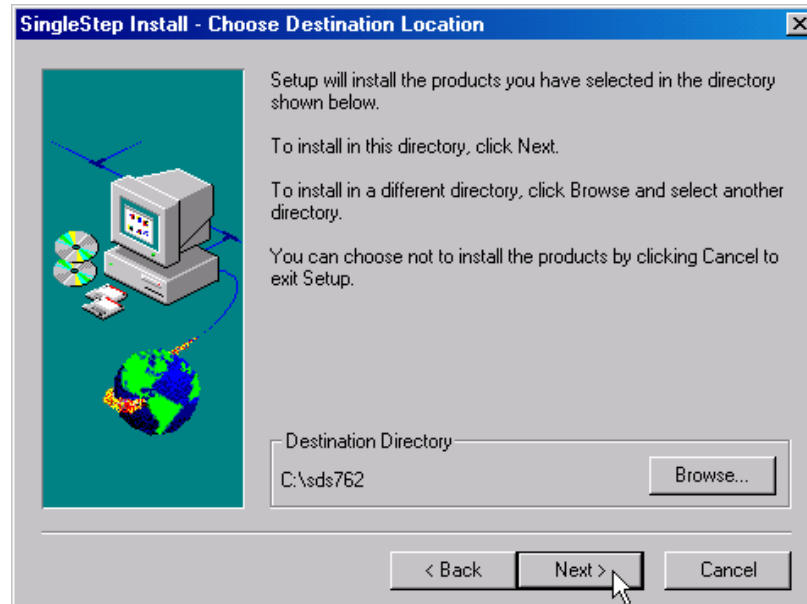


Figure 16—Choose destination location

9. Click **Next>** on the **Select Program Folder** window.

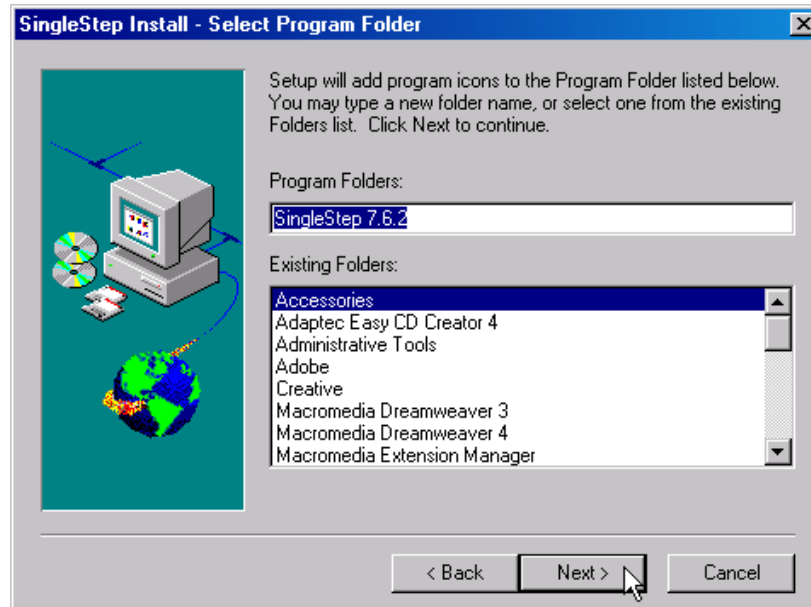


Figure 17—Select program folder

10. Select I have no license file on the **Select License File Location** window. Click Next>.

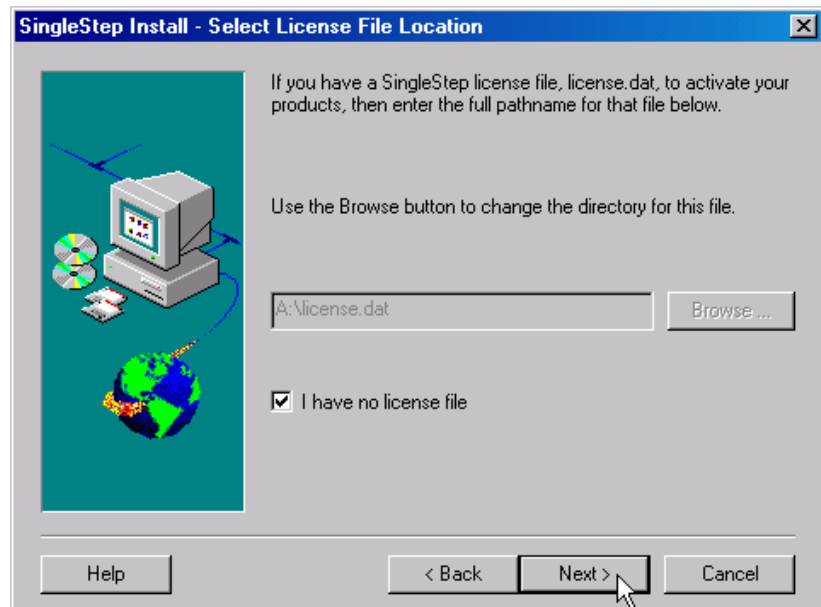


Figure 18—Select I have no license file

11. Click OK to the Warning.

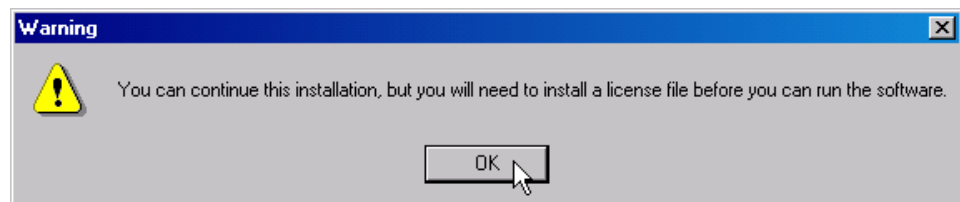


Figure 19—Click OK to Warning

12. Click **Next>** on the **Start Copying Files** window.

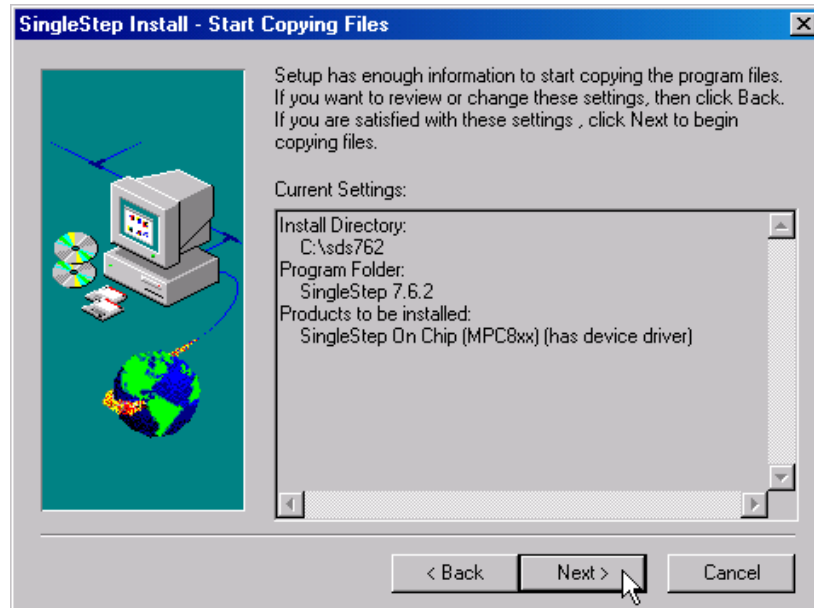


Figure 20—Start copying files

13. Click **Next>** on the **Licensing Information** window.

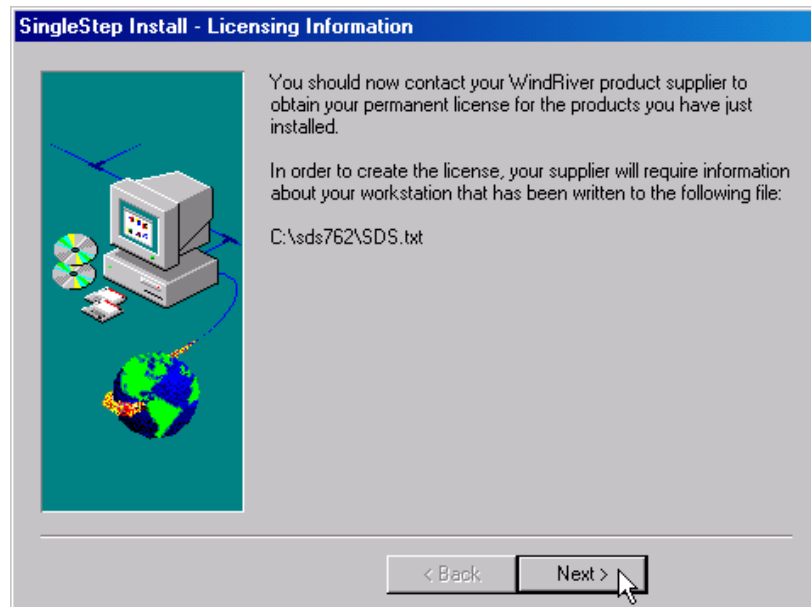


Figure 21—Click Next

14. Select Yes, I want to restart my computer now on the **Setup Complete** window. Click Finish.

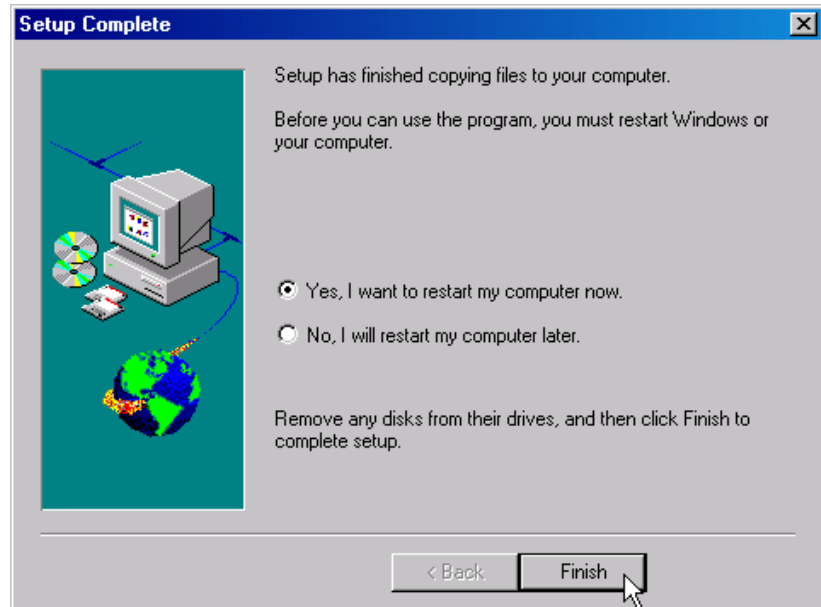


Figure 22—Click Finish

15. When your PC is restarting, examine the setting of your parallel port by pressing **F2** to go to the **Setup** window. SingleStep debugger software only works if your parallel port is set to (Bi-Directional) EPP mode. On some PCs (Dell Optiplex) it may say PS/2 mode. If it is not already in this mode, you need to change it and save the setting.

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**NOTE:** Do not run the debugger software until you have completed Step 16.

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16. Set up your SingleStep debugger software license according to the instructions provided by Wind River.

Installation of the debugger software is now complete. Before using the debugger software for the first time, complete the configuration procedure in “STEP 6: Configure Debugger Software.”

## STEP 6: Configure Debugger Software

1. Launch **eDSS** and sign in.
2. Click the icon to download the debugger configuration files.



Figure 23—Click download icon

3. Unzip the files to the **x:\sds762\cmd\** directory, where **x** is your local drive.
4. Follow the instructions in the **Readme.txt** file.
5. Turn on the FlashPAK Developer Station.
6. Start the debugger by using Windows Explorer to browse to and select **SingleStep on Chip (MPC8xx)**.

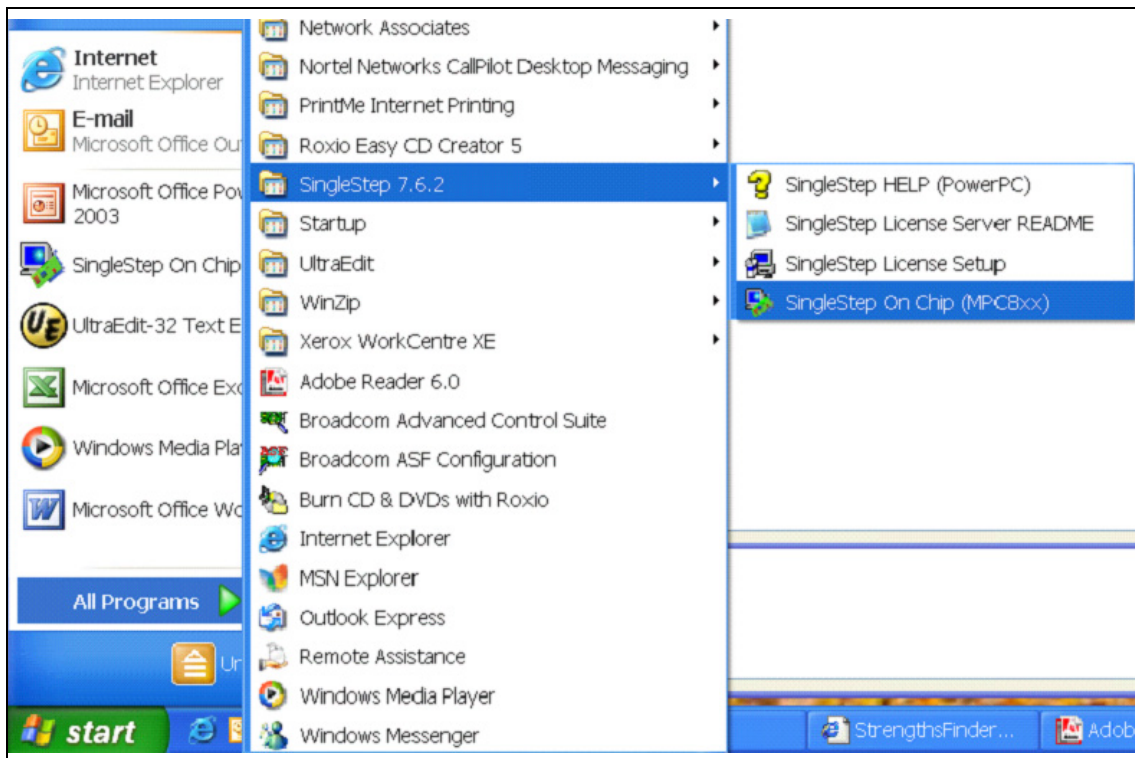


Figure 24—Start the debugger



7. When the debugger starts, the **File** tab is active. Click **Cancel** to close the dialog and return to the **Main** menu.

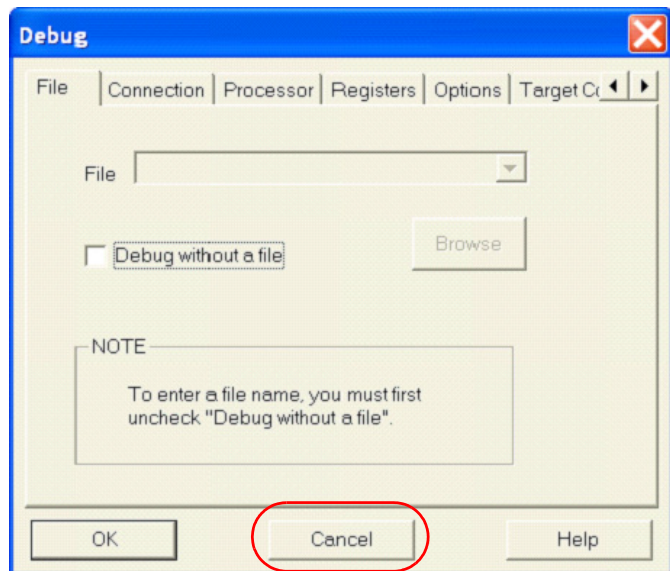


Figure 25—Click Cancel

8. From the **Tools** menu, check the option to **Save on Exit**. Then press **Ctrl + D** or click the **Debug** icon on the **Main** window.

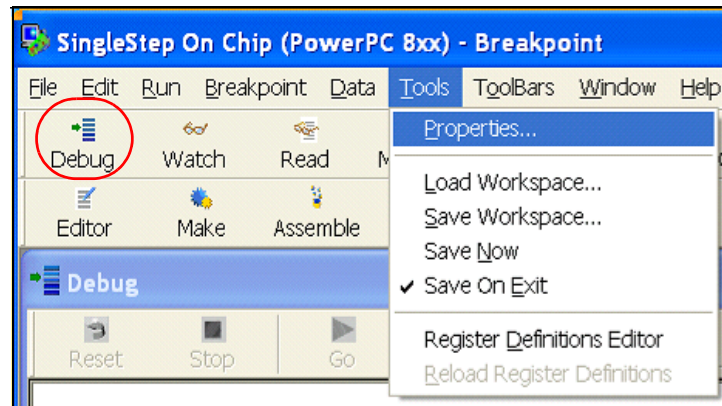


Figure 26—Check Save on Exit

9. Set the File tab as shown.

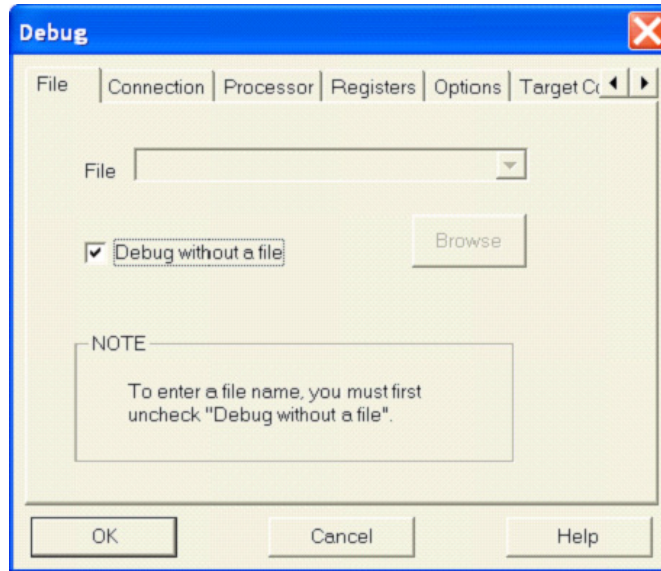


Figure 27—File Tab Settings

10. Set the Connection tab as shown:

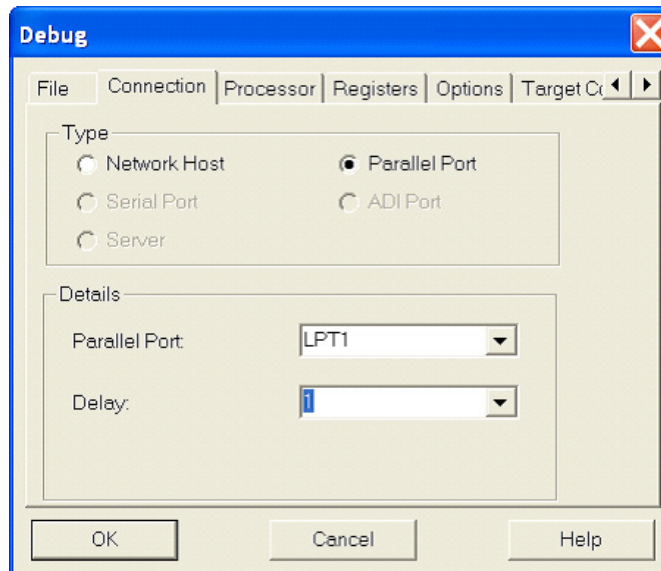


Figure 28—Connection Tab Settings

11. Set the Processor tab as shown:

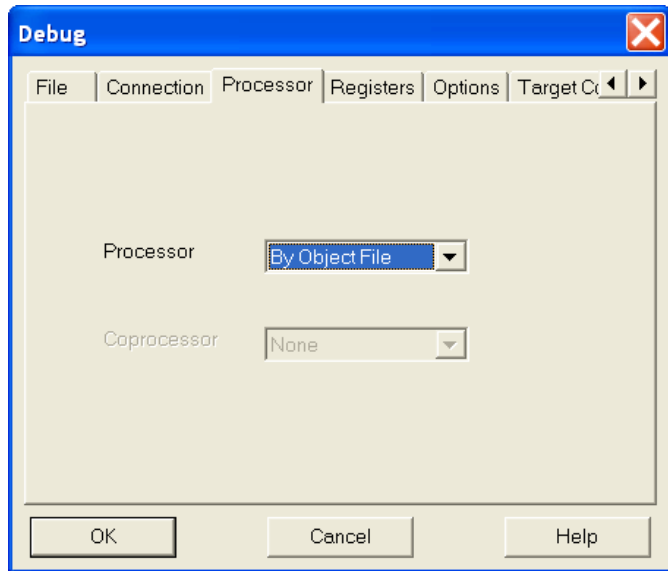


Figure 29—Processor Tab Settings

12. Set the Registers tab as shown:

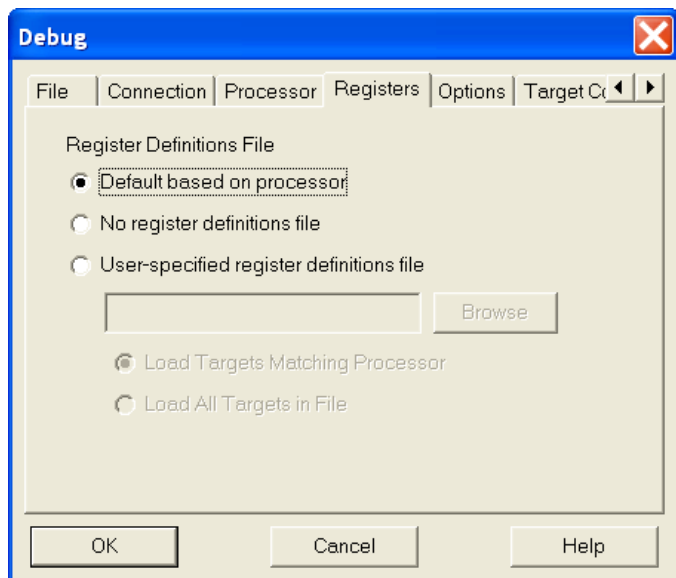


Figure 30—Registers Tab Settings

13. Set the Options tab as shown:

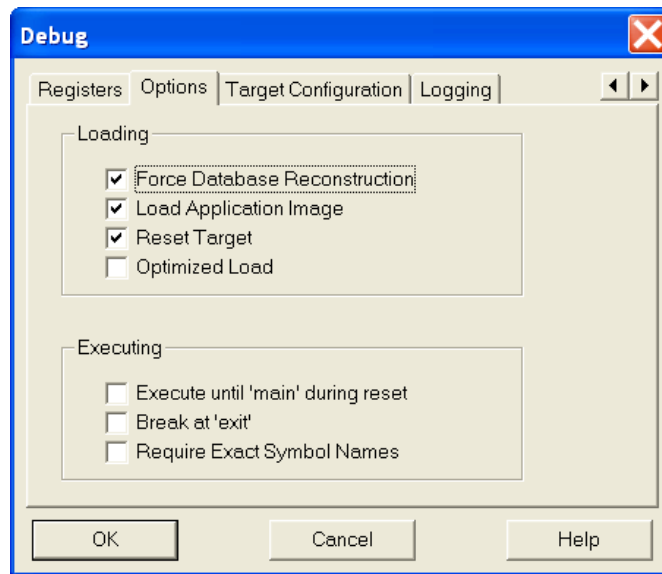


Figure 31—Options Tab Settings

14. Set the Target Configuration tab as shown:

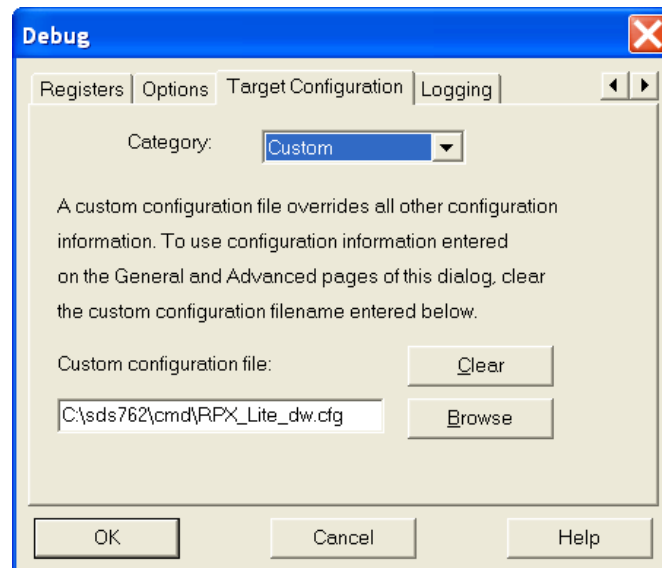


Figure 32—Target Configuration Tab Settings

15. Click OK. Your debugger settings are saved.

**NOTE:** When you are ready to begin debugging, return to the File tab (see Figure 27 on page 16), de-select Debug without a file, and browse to the **sysflash.elf** file you wish to debug.

## Important Resources

Four important resources are available to assist you in using **eDSS**:

- **eDSS Help**
- **Tutorials**
- **Device Support Training**
- **Data I/O Customer Support**

### eDSS Help

**eDSS Help** contains information on using the features of the **eDSS** application.

To open and save **eDSS Help**:

1. Click the Help icon in the **eDSS** icon bar.

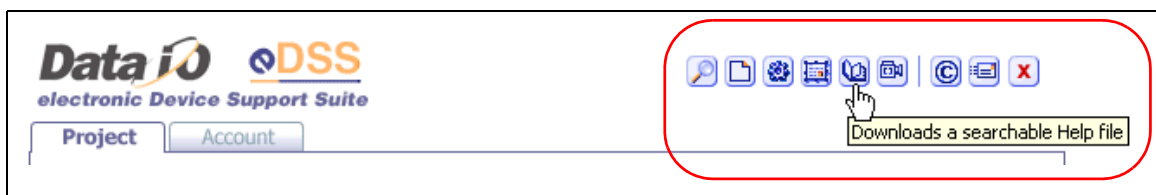


Figure 33— Click Help icon

2. Save the Help file to your PC's hard drive.
3. Create a shortcut on your desktop for **eDSS Help**.

### Tutorials

Tutorials are short videos that provide information about how to configure your Internet Explorer browser settings, use the **eDSS** application, access the three levels of help, and create derivative device support.

To open and watch **Tutorials**:

1. Click the Tutorial icon on the **eDSS** icon bar.

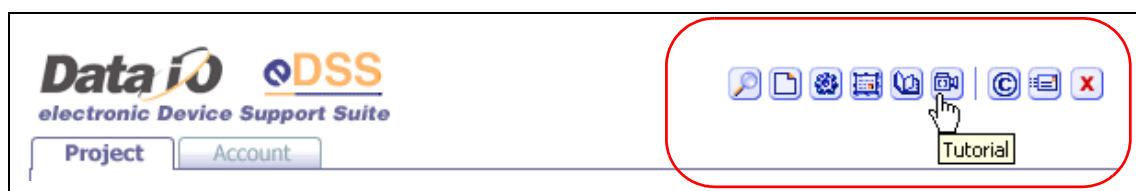


Figure 34—Click Tutorial icon

2. On the new window, select the Tutorial you wish to view:

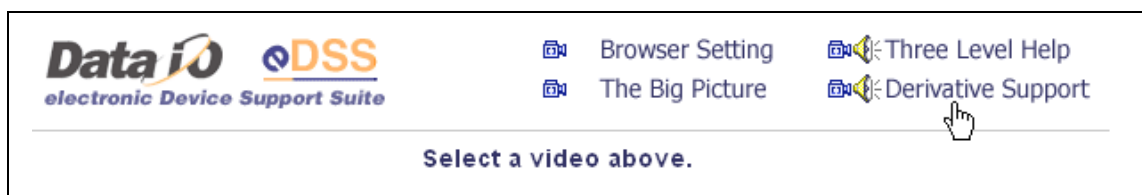


Figure 35—Select the Tutorial you wish to view

**NOTE:** If your PC does not have Macromedia Flash player installed, you will be asked if you wish to install it. Follow the prompts to install.

**Browser Setting** helps you with configuring your Internet Explorer browser for the most efficient use of **eDSS** tools.

**Three Level Help** provides a brief look at page level help, the full Help file, and the Training Guide.

**The Big Picture** provides the overall concept (or “Big Picture”) of creating device support using **eDSS** tools.

**Derivative Support** shows the process of creating a derivative device support by cloning.

## Device Support Training

**Device Support Training** contains information on how to develop device support, such as creating pinout diagrams, creating functional tests, debugging new device support files, setting up the Universal Developer Adapter, and related topics.

To open and save **Device Support Training**:

1. Click DS Training on the Home page of **eDSS Help**.

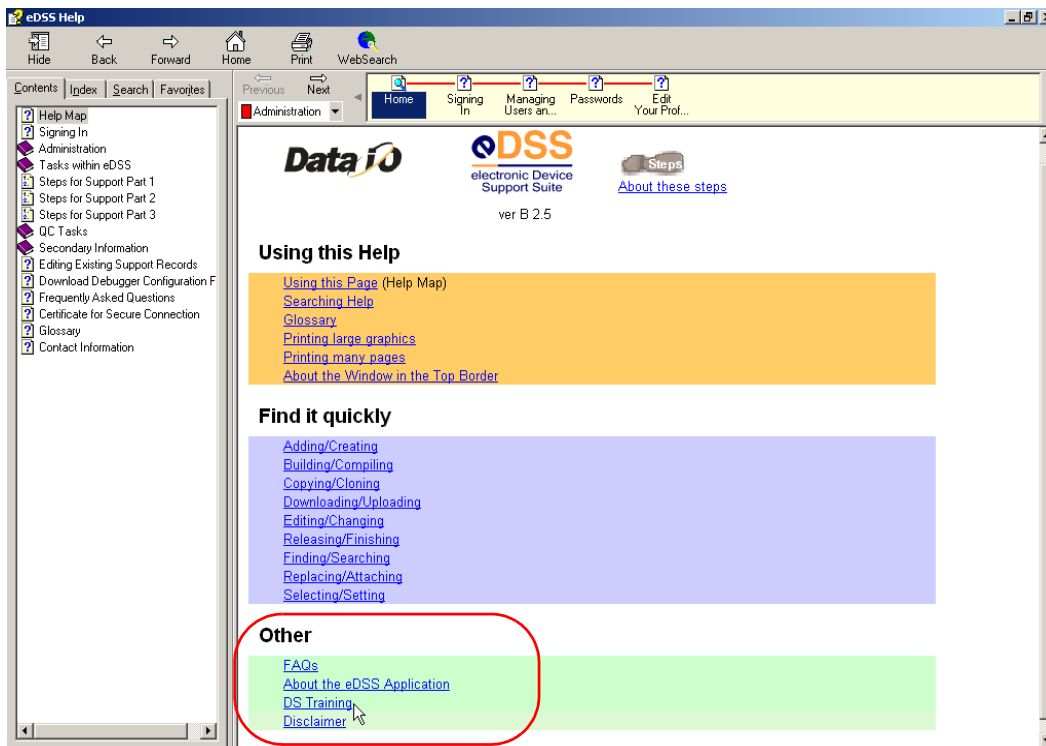


Figure 36—Click DS Training to open

2. Save the file to your PC's hard drive.
3. Create a shortcut on your desktop for **Device Support Training**.

Figure 37 shows the Welcome page and Table of Contents of **Device Support Training**:

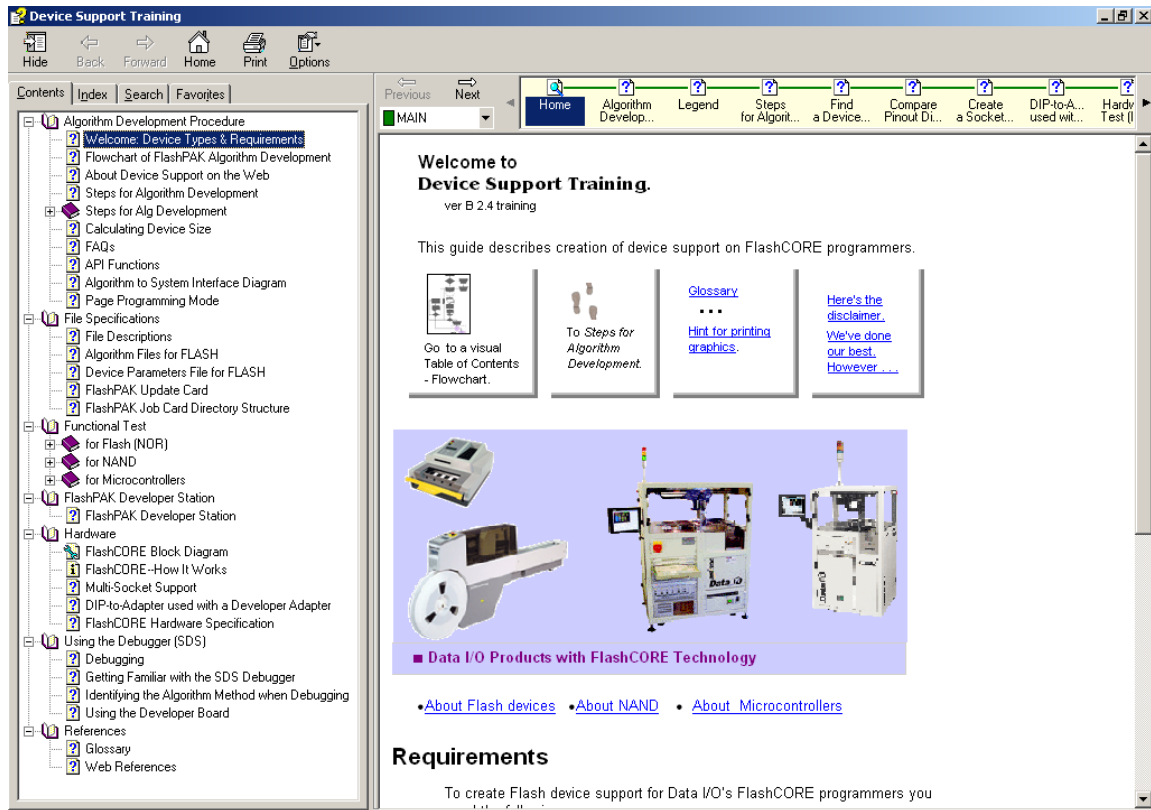


Figure 37—Device Support Training with Table of Contents

## Customer Support

For questions or assistance, contact Data I/O Customer Support:

### Data I/O Corporation

Shipping address	10525 Willows Road N.E. Redmond, WA USA 98052
Mailing address	P.O. Box 97046 Redmond, WA USA 98073-9746
Telephone	425-867-6870
Toll free in USA	1-800-3 DATAIO (1-800-332-8246)
Fax	425-867-6898
E-mail	support@dataio.com

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### Data I/O China (Shanghai)

Address	Suite 2401, South Tower 528 South Pudong Road Shanghai 200120 China PRC
Telephone	+86-21-6881-6808
Fax	+86-21-6881-6818

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### Data I/O Germany

Address	Lochamer Schlag 5 82166 Graefelfing, Germany
Telephone	+49-89-85858-66
Fax	+49-89-85858-10
Mail	ccs-europe@data-io.de

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### Other Countries

For technical support in other countries, contact your local Data I/O representative. To find your local representative, go to [www.dataio.com/contact/repsearch.asp](http://www.dataio.com/contact/repsearch.asp)

