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*Allen-Bradley*

*DriveTools32™  
Getting Started*

*Version 1.xx*

*Using RSLinx™ Lite  
Version 1.7*



# Getting Started Manual

## Important User Information

Because of the variety of uses for the products described in this publication, those responsible for the application and use of this control equipment must satisfy themselves that all necessary steps have been taken to assure that each application and use meets all performance and safety requirements, including any applicable laws, regulations, codes and standards.

The illustrations, charts, sample programs and layout examples shown in this guide are intended solely for purposes of example. Since there are many variables and requirements associated with any particular installation, Rockwell Automation does not assume responsibility or liability (to include intellectual property liability) for actual use based upon the examples shown in this publication.

Rockwell Automation publication SGI-1.1, *Safety Guidelines for the Application, Installation, and Maintenance of Solid-State Control* (available from your local Rockwell Automation office), describes some important differences between solid-state equipment and electromechanical devices that should be taken into consideration when applying products such as those described in this publication.

Reproduction of the contents of this copyrighted publication, in whole or in part, without written permission of Rockwell Automation, is prohibited.

Throughout this manual we use notes to make you aware of safety considerations:



**ATTENTION:** Identifies information about practices or circumstances that can lead to personal injury or death, property damage or economic loss.

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Attention statements help you to:

- Identify a hazard.
- Avoid the hazard.
- Recognize the consequences.

**Important:** Identifies information that is critical for successful application and understanding of the product.

## **Summary of Changes**

The information below summarizes the changes to the company-wide templates since the last release.

### **Updated Information**

No changes have been made to this manual.

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**Notes:**

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**Notes:**



## Preface

Read this preface to become familiar with the rest of the manual. This preface covers the following topics:

- Who should use this manual.
- An overview of the DriveTools32™ software package.
- An overview of RSLinx™ software.
- DriveTools32 compatibility.
- The purpose of this manual.
- Terms and abbreviations.
- Conventions used in this manual.
- Rockwell Automation support.

### Who Should Use This Manual?

Use this manual if you are responsible for using the DriveTools32 software to program, monitor, and troubleshoot Allen-Bradley AC and DC digital drive products. You should be familiar with programming Allen-Bradley digital drives and have basic personal computer and Windows operation skills and knowledge, such as starting applications, navigating between applications, using menus and dialogs, and accessing your Windows help system.



**ATTENTION:** Only people familiar with Allen-Bradley drives and the associated machinery the drives control should plan or implement the installation, start up, and subsequent maintenance of the drive. Failure to comply may result in personal injury and/or equipment damage.

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### What Is DriveTools32?

The DriveTools32 software is a Microsoft® Windows-based family of software products that let you program, monitor, and troubleshoot Allen-Bradley AC and DC digital drive products. Some of the software products in the DriveTools32 family also support communication with PLC® controls through the DH+™ network.



**ATTENTION:** Hazard of injury exists. The Start/Stop/Jog functions of DrivePanel32 software rely on the integrity of software and communication with the drive. A malfunction in any process may cause loss of control and inability to stop the drive. An independent hardwired Stop device **MUST** be within your reach when using DrivePanel32 software to control the drive. DrivePanel32 software is designed to be a temporary control alternative during setup. DrivePanel32 software is not a substitute for primary operator controls that meet industry standards and local codes.

The following software products are part of the DriveTools32 family:

This product:	Lets you:
DriveManager32™	Easily create and edit drive data tables that are used to configure the drive for your application. DriveManager32 also provides several methods of displaying drive diagnostic information.
DriveMonitor32™	Graphically monitor a drive and/or PLC controller data points when connected to a Data Highway Plus (DH+) network. You can easily display live data values in a graphic format.
DrivePanel32™	Use the programming and control functions available with a Human Interface Module (HIM) from your terminal screen. DrivePanel32 includes several additional programming and control features that are not available with a HIM.
DriveTrending32™	Program the internal drive trending functions when supported by the drive.
DriveBlockEditor32™	Create and monitor function block programs that run internally on drives that support function blocks.

## What Is RSLinx?

RSLinx provides the necessary communications drivers which enable DriveTools32 to communicate with Allen-Bradley drive products using a variety of different networks as well as direct serial connection.

Before you can start DriveTools32 applications, you must either load RSLinx Lite (version 1.7), which is shipped with DriveTools32, or you must already have RSLinx running and properly configured on your PC.

## DriveTools32 Compatibility

DriveTools32 is a 32-bit application designed to be used with Microsoft Windows 95 or Microsoft Windows NT™ (4.0 or greater).

## Purpose of this Manual

This manual is designed to get you started using DriveTools32 software. You will learn how to set up and properly configure RSLinx for your system and how to connect to your drive from a DriveTools32 application.

The DriveTools32 software family contains online help designed to let you understand and use this product.

**Important:** You should read this manual and be familiar with your drive system before you install and set up your DriveTools32 software.

## Contents of this Manual

This manual contains the following information:

Chapter	Title	Contents
	Preface	Describes the purpose, background, and scope of this manual as well as an overview of this product.
1	Overview	Provides an overview of the DriveTools32 software, an overview of the types of communications you can use, an explanation of this manual's structure, instructions for installing DriveTools32, instructions for installing RSLinx, and a description of databases used by DriveTools32.
2	Setting Up an RS-232 Point-to-Point Serial Communications System for a SCANport Product	Provides information for properly configuring RSLinx for an RS-232 point-to-point serial communications system as well as the steps for connecting to the drive from within DriveTools32 applications.
3	Setting Up an RS-232 Point-to-Point Serial Communications System for a 1395 Drive	Provides information for disabling RSLinx and properly configuring DriveTools32 for a 1395 RS-232 point-to-point serial communications system as well as the steps for connecting to the drive from within DriveTools32 applications.
4	Setting Up DH+ Direct Communications Systems	Provides information for properly configuring RSLinx for DH+ Direct communications systems as well as the steps for connecting to the drive from within DriveTools32 applications.
5	Setting Up a DH+ to RIO Block Transfer Pass Thru Communications System	Provides information for properly configuring RSLinx for a DH+ to RIO Block Transfer Pass Thru communications system as well as the steps for connecting to the drive from within DriveTools32 applications.
6	Setting Up a ControlNet Direct Communications System	Provides information for properly configuring RSLinx for a ControlNet Direct communications system as well as the steps for connecting to the drive from within DriveTools32 applications.
7	Setting Up an Allen-Bradley Ethernet to RIO Block Transfer Pass Thru Communications System	Provides information for properly configuring RSLinx for an A-B Ethernet to RIO Pass Thru communications system as well as the steps for connecting to the drive from within DriveTools32 applications.
8	Using RSLinx Gateways	Provides information for properly configuring RSLinx for RSLinx gateways as well as the steps for connecting to the drive from within DriveTools32 applications.

## Related Documentation

See the online help files for individual application information. All documentation for Drive Tools32 is currently in the online help.



**ATTENTION:** Hazard of injury or death exists when starting or stopping the drive using DrivePanel32. Do not use DrivePanel32 until you have read and understood the hazards explained in your Drive's User Manual(s).

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## Terms and Abbreviations

For a complete listing of Allen-Bradley terminology, including terms and abbreviations used in this manual, refer to the Allen-Bradley Industrial Automation Glossary.

## Conventions Used in this Manual

The following conventions are used throughout this manual:

- Bulleted lists provide information, not procedural steps.
- Numbered lists provide sequential steps or hierarchical information.
- *Italic* type is used for chapter names.
- **Bold** type is used for names of dialog boxes, dialog box fields, menus, menu options, and buttons.
- When RSLinx is referred to in this manual, you may use either the RSLinx Lite (version 1.7) shipped with DriveTools32 or RSLinx (version 1.7).

**Important:** This type of paragraph contains tips or notes that have been added to call attention to useful information.

## **Rockwell Automation Support**

Rockwell Automation offers support services worldwide, with over 75 sales/support offices, over 500 authorized distributors, over 250 authorized systems integrators located through the United States alone, and Rockwell Automation representatives in every major country in the world.

### **Local Product Support**

Contact your local Rockwell Automation representative for:

- Sales and order support.
- Product technical training.
- Warranty support.
- Support service agreements.

### **Technical Product Assistance**

If you need to contact Rockwell Automation for technical assistance, please review the information in this manual and the online help first. If you still have problems, then call your local Rockwell Automation representative.

Refer to <http://www.ab.com> for any updates and supporting documentation.

**Notes:**

## Overview

### Chapter Objectives

Chapter 1 provides an overview of the DriveTools32 software package. This chapter covers the following topics:

- An overview of the types of communications systems and required equipment for each.
- An explanation of databases DriveTools32 uses and creates.
- Instructions for installing DriveTools32.
- Instructions for installing RSLinx.
- Instructions for starting RSLinx and DriveTools32 applications.

### What Hardware Do I Need to Run DriveTools32 and RSLinx?

DriveTools32 and RSLinx allow for flexibility when it comes to connecting to drive products. The hardware you need depends on your drive and your drive system. This section provides information about some of the more common configurations.

**Important:** DriveMonitor32 cannot use RIO Block Transfer Pass Thru communications or 1395 Serial communications.

Before determining the configuration that you want to use, you should have a basic understanding of the different communication types that DriveTools32 supports:

<b>This communication type:</b>	<b>Chapter</b>
RS-232 Point-to-Point Serial for a SCANport-Compatible Drive	<b>2</b>
RS-232 Point-to-Point Serial for a 1395 Drive	<b>3</b>
DH+ Direct	<b>4</b>
DH+ to RIO Block Transfer Pass Thru	<b>5</b>
ControlNet Direct	<b>6</b>
Ethernet to RIO Block Transfer Pass Thru	<b>7</b>
RSLinx Gateway	<b>8</b>

To set up your communications system, you need to:

- 1.** Install DriveTools32 and RSLinx. Refer to instructions later in this chapter.
- 2.** Determine which configuration most closely matches your system, and refer to the chapter which represents that configuration for information on hardware and system configuration.



## Using DriveTools32 with an Allen-Bradley SCANport-Compatible Product

You can use DriveTools32 with a number of Allen-Bradley SCANport-compatible products, including a 1305 Micro, 1336E (IMPACT), 1336F (PLUS II), 1336G (Fibers), 1336S (PLUS), 1336T (FORCE), 1557 (Med. Volt), 1394 Servo, or SMC drive. For a list of Allen-Bradley SCANport-compatible products, refer to Appendix A. If you use DriveTools32 with one of these products, you have the following options:

To use this communication type:	You need this hardware on the drive-side:	And this hardware on the PC-side:	For installation, refer to:
RS-232 Point-to-Point Serial	1203-GD2 or 1203-GK2 and appropriate cable, or 1336-GM2	RS232 port	Chapter 2
DH+ to RIO Block Transfer Pass Thru	1203-GD1 or 1203-GK1 and appropriate cable, or 1336-GM1	1784-KTx, -KL, -PCMK	Chapter 5
Ethernet to RIO Block Transfer Pass Thru	1203-GD1 or 1203-GK1 and appropriate cable, or 1336-GM1	Ethernet Interface Running TCP/IP	Chapter 7
RSLinx Gateway Server DH+ to RIO Block Transfer Pass Thru	1203-GD1 or 1203-GK1 and appropriate cable, or 1336-GM1	<b>Client:</b> Ethernet Interface Running TCP/IP <b>Server:</b> Ethernet Interface Running TCP/IP and 1784-KTx, -KL, or -PCMK	Chapter 8

## Using DriveTools32 with a 1336T (FORCE) Drive

The 1336T (FORCE) drive is a SCANport-compatible product that can use all options listed above. In addition, it offers the following options:

To use this communication type:	You need this hardware on the drive-side:	And this hardware on the PC-side:	For installation, refer to:
RS-232 Serial to DH+ Direct	PLC Communications Adapter Board (1336T-GT1EN)	RS232 port and 1770-KF2	Chapter 4
DH+ Direct	PLC Communications Adapter Board (1336T-GT1EN)	1784 -KTx, -KL, -PCMK	Chapter 4
DH+ to RIO Block Transfer Pass Thru	PLC Communications Adapter Board (1336T-GT1EN)	1784-KTx, -KL, -PCMK	Chapter 5
ControlNet Direct	ControlNet Adapter Board (1336T-GT3EN), ControlNet Repeater Adapter (1786-RPA), and ControlNet Fiber Module (1786-RPFM)	KTC, KTC(X)	Chapter 6
Ethernet to RIO Block Transfer Pass Thru	PLC Communications Board (1336T-GT1EN)	Ethernet Interface Running TCP/IP	Chapter 7
RSLink Gateway Server: Ethernet to DH+ Direct	PLC Communications Adapter Board (1336T-GT1EN)	<b>Client:</b> Ethernet Interface Running TCP/IP <b>Server:</b> Ethernet Interface Running TCP/IP and 1784-KTx, -KL, or -PCMK	Chapter 8
RSLink Gateway Server: Ethernet to DH+ to RIO Block Transfer Pass Thru	PLC Communications Adapter Board (1336T-GT1EN)	<b>Client:</b> Ethernet Interface Running TCP/IP <b>Server:</b> Ethernet Interface Running TCP/IP and 1784-KTx, -KL, or -PCMK	Chapter 8

## Using DriveTools32 with a 1395 Drive

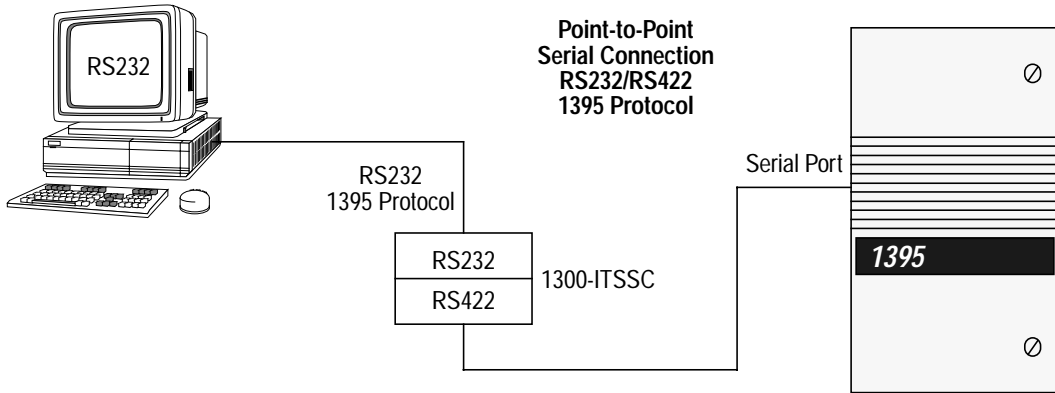
If you plan to use DriveTools32 with a 1395 drive, you have the following options:

To use this communication type:	You need this hardware on the drive-side:	And this hardware on the PC-side:	For installation, refer to:
RS-232 Point-to-Point Serial	1300-ITSSC	RS232 port	Chapter 3
RS-232 Serial to DH+ Direct	Multi-Communications Adapter Board (1395-KP51)	RS232 port and 1770-KF2	Chapter 4
DH+ Direct	Multi-Communications Adapter Board (1395-KP51)	1784 -KTx, -KL, or -PCMK	Chapter 4
DH+ to RIO Block Transfer Pass Thru	Node Adapter (1395-KP50) or Multi-Communications Adapter (1395-KP51)	1784-KTx, -KL, or -PCMK	Chapter 5
Ethernet to RIO Block Transfer Pass Thru	Node Adapter (1395-KP50) or Multi-Communications Adapter (1395-KP51)	Ethernet Interface Running TCP/IP	Chapter 7
RSLinx Gateway Server: Ethernet to DH+ Direct	Multi-Communications Adapter (1395-KP51)	<b>Client:</b> Ethernet Interface Running TCP/IP <b>Server:</b> Ethernet Interface Running TCP/IP and 1784-KTx, -KL, or -PCMK	Chapter 8
RSLinx Gateway Server: Ethernet to DH+ to RIO Block Transfer Pass Thru	Node Adapter (1395-KP50) or Multi-Communications Adapter (1395-KP51)	<b>Client:</b> Ethernet Interface Running TCP/IP <b>Server:</b> Ethernet Interface Running TCP/IP and 1784-KTx, -KL, or -PCMK	Chapter 8

# Example Configurations

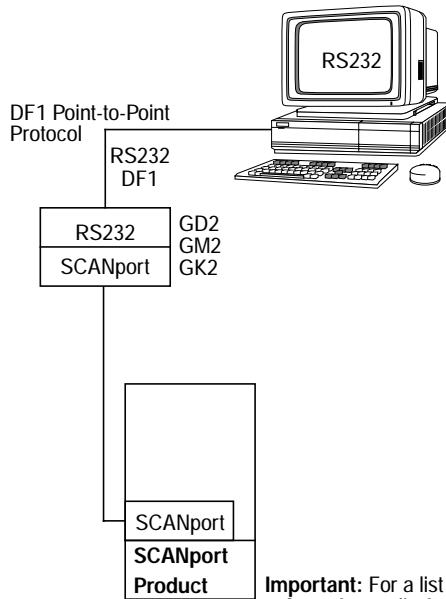
The following figures show some example configurations.

**Figure 1.1**  
**RS-232 Point-to-Point Communications for a 1395 Drive**



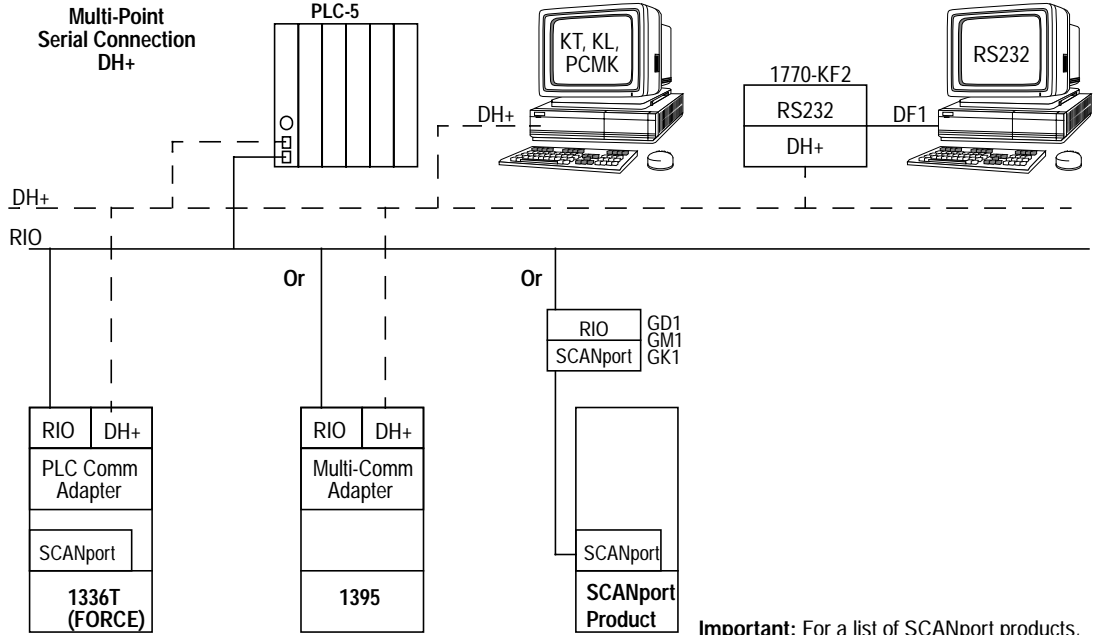
**Figure 1.2**  
**RS-232 Point-to-Point Communications for a SCANport-Compatible Product**

**Point-to Point Serial Connection RS232/DF1**



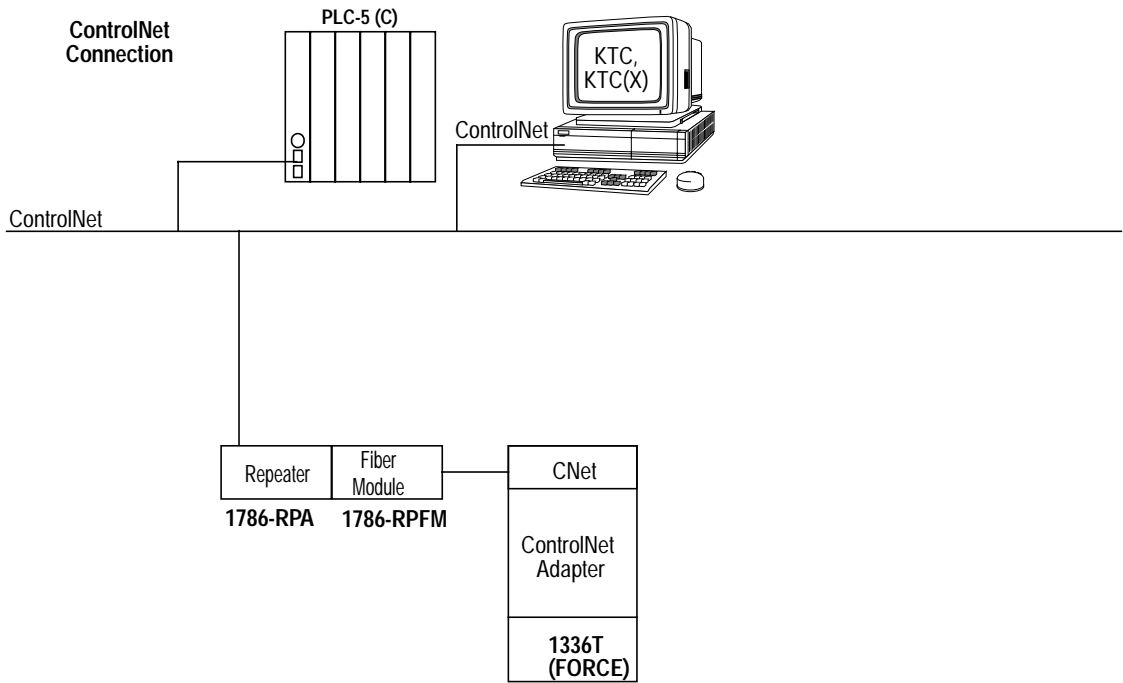
**Important:** For a list of SCANport products, refer to Appendix A.

**Figure 1.3**  
**DH+ Direct and RIO Block Transfer Pass Thru Networks**

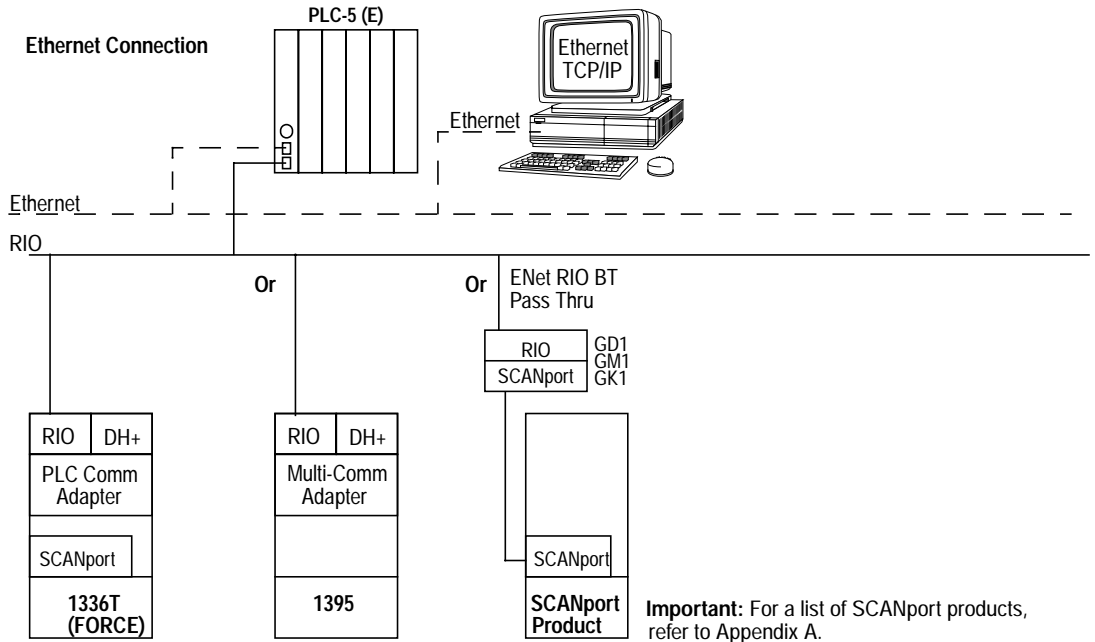


**Important:** For a list of SCANport products, refer to Appendix A.

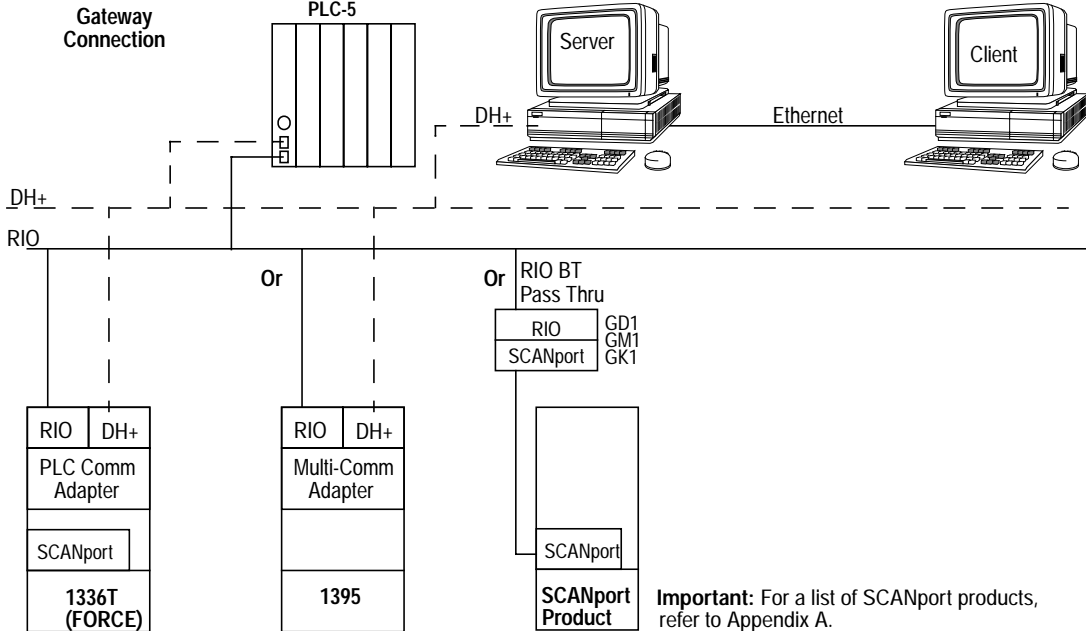
**Figure 1.4**  
**ControlNet Direct Communications Network**



**Figure 1.5**  
**Allen-Bradley Ethernet to RIO Block Transfer Pass Thru Communications System**



**Figure 1.6**  
**RSLinx Gateway Ethernet to DH+ RIO Block Transfer Pass Thru Connection**



## DriveTools32 and Database Files

DriveTools32 uses a unique database file for each drive product so that you can configure each drive individually. DriveTools32 ships with many of the database files it will need (refer to Appendix A).

If you connect to a drive for which DriveTools32 does not have a database file, you will be prompted to upload a new database. Click **OK** and DriveTools32 uploads a database which you can then configure.

## Installing DriveTools32 Software

To install the DriveTools32 software, you need to:

1. Exit all Windows programs.
2. Insert the DriveTools32 CD in your CD-ROM drive.

The program automatically displays the **Setup Status** window to let you know that it is preparing the InstallShield wizard to help guide you through the installation. Once the InstallShield wizard program is ready, you are placed in the setup script.



3. Click the appropriate button.

Click:	To:
<b>Next</b>	Indicate that all Windows programs are closed and you are ready to begin the installation.
<b>Cancel</b>	<ol style="list-style-type: none"> <li>1. Quit the setup program. The setup script prompts you to make sure that you really want to cancel the setup script.</li> <li>2. Close any programs you have running.</li> <li>3. Go back to step 2.</li> </ol>

4. After reading the DriveTools32 software license agreement, click the appropriate button.

If you:	Then click:
Accept the terms of agreement	<b>Yes.</b> The readme.txt file will appear. (Recommended)
Do not accept the terms of agreement	<b>No.</b> The set up procedure will close.

5. After carefully reading the information in the readme.txt file, click the appropriate button.

To:	Click:
Continue installing DriveTools32	<b>Yes</b>
Cancel the installation	<b>No</b>
Go back to the previous dialog box	<b>Back</b>

6. In the **Registration** dialog box, enter your name, company, and the DriveTools32 serial number, and then click **Next**.

**Important:** The serial number is located on the DriveTools32 box.

7. Choose where you want to install DriveTools32.

To:	Click:
Install DriveTools32 in the directory listed	<b>Next</b> (Recommended)
Install DriveTools32 in a different directory	<b>Browse</b> and use the menu structure to locate the directory
Cancel the setup script	<b>Cancel</b>

## 8. Select the type of setup you want to perform.

If you want to perform:	Click:
The default setup procedure. We recommend that you use this option as it sets up DriveTools32 in the most typically used configuration.	<b>Typical</b> (Recommended)
A space-saving installation. Installs only those files necessary to run the DriveTools32 applications.	<b>Compact</b>
A custom installation. You can customize all available set up options. Use this option only if you are an advanced user or if you are a system administrator and your system requires that you modify the default DriveTools32 configuration.	<b>Custom</b>

## 9. Select whether to enable a security system.

DriveTools32 provides a security system that lets the system administrator decide who can access the system and the type of access those users may have. For more information about the security system, refer to the DriveManager32 online help.



**ATTENTION:** This is a one time decision. DriveTools32 must be re-installed to change security. During a reinstallation, data may be lost.

If you want to:	Click:
Enable the security system. You will need to log in to the system later using the default user name of ADMIN and the default password of PASS.	<b>Yes</b>
Disable the security system.	<b>No</b>

## 10. Accept the default folder name or select another folder.

The setup script creates a folder in the directory that you specified to contain the DriveTools32 software. You need to select the name of this folder. Use either the **Select** list or enter the name in the field. Click **Next** when finished.

**11.** Review your setup information.

If you want to:	Click:
Begin copying the files	<b>Next.</b>
Change information	<b>Back.</b> You can continue using the <b>Back</b> button until you reach the information that you wish to change.
Exit the setup script	<b>Cancel</b>

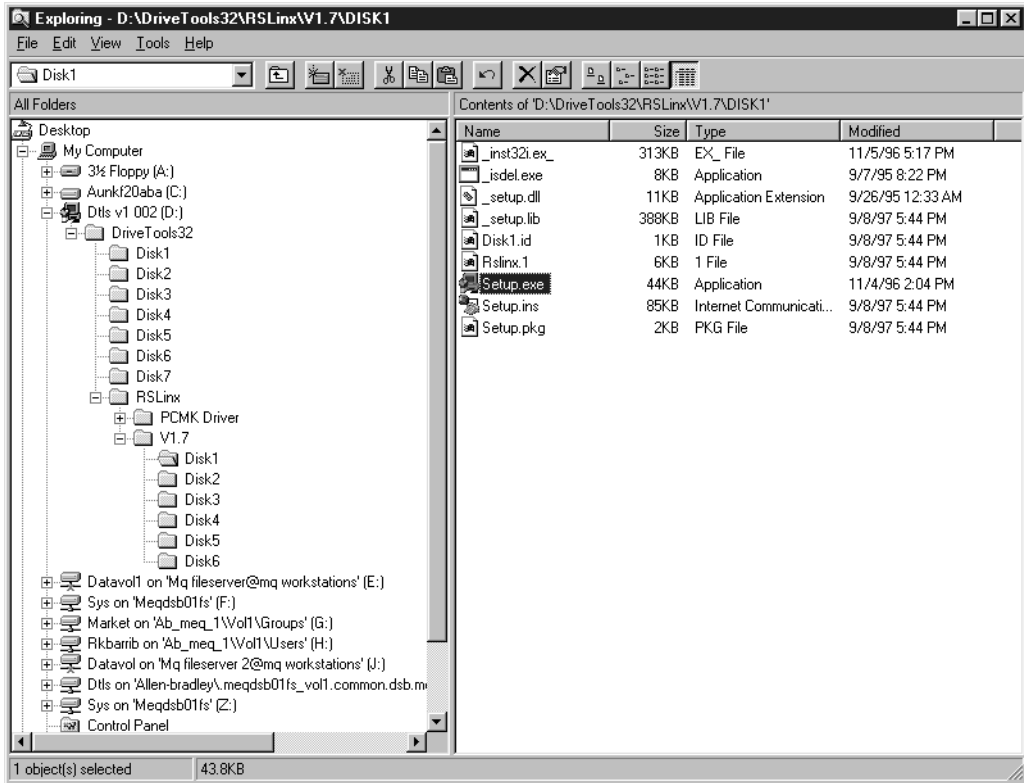
Depending on the files transferred to your PC during installation, the following window may appear.

**12.** Click **OK**. Your system will restart.**Installing RSLinx**

After you install DriveTools32, the RSLinx InstallShield wizard program appears automatically. You must have RSLinx installed and properly configured before you can use DriveTools32.

**Important:** If you already have RSLinx (version 1.7) installed on your PC, do not install RSLinx Lite. Click **Cancel** and then **Exit Setup**.

**Important:** If the RSLinx InstallShield wizard does not appear automatically, you can start it in Windows Explorer. Start Windows Explorer, click your CD-ROM drive, **DriveTools32**, **RSLinx**, **V1.7**, **Disk1**, and then **setup.exe**.



If you need to install RSLinx Lite, follow the instructions in the InstallShield wizard.

## Starting RSLinx and DriveTools32

To start **RSLinx**, click **Start, Programs, Rockwell Software, RSLinx**, and then **RSLinx**.

To start DriveTools32 applications, click **Start, Programs, DriveTools32** and then the DriveTools32 application (e.g., **DriveManager32**).

**Important:** When you start a DriveTools32 application, RSLinx will automatically start with it.

## Setting Up an RS-232 Point-to-Point Serial Communications System for a SCANport Product

### Chapter Objectives

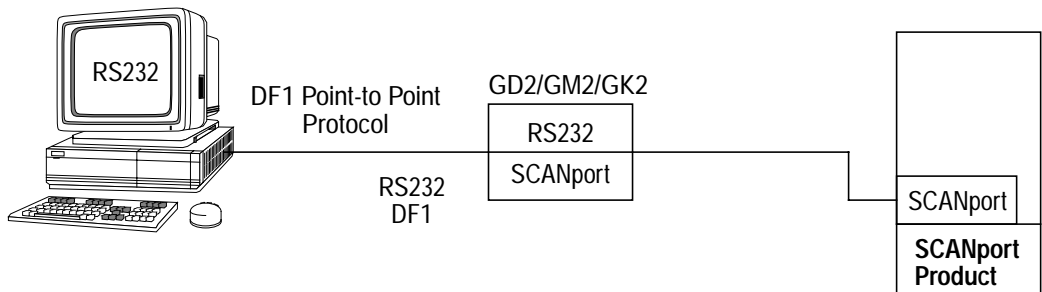
This chapter provides information for configuring an RS-232 point-to-point serial communications system to a SCANport-compatible product. After finishing this chapter, you will be able to perform the following tasks:

- Check your hardware installation.
- Configure RSLinx for serial communications.
- Enter information into the DriveTools32 application's **Communication Setup** dialog box.
- Begin communicating with your drive.

### What Is an RS-232 Point-to-Point Serial Communications System?

An RS-232 point-to-point serial communications system establishes a direct serial connection between your PC and your drive. The following is an example of this type of configuration:

Figure 2.1  
RS-232 Point-to-Point Serial Communications for a SCANport-Compatible Product



**Important:** Certain DriveTools32 applications may require communication capacities greater than an RS-232 connection can provide. You may experience communication faults when using a serial connection.

For this type of configuration, you can have any drive, except a 1395. For information on setting up an RS-232 point-to-point serial communications system for a 1395 drive, refer to Chapter 3.

## Checking Your Hardware Installation

Before configuring RSLinx for an RS-232 point-to-point serial communications and running DriveTools32, you should check your hardware installation. You should:

- Make sure that your drive is properly installed and grounded.
- Check that your cables are all firmly connected.
- Use a straight-through serial cable (not a null modem).
- Check your serial communications module settings.

To ensure the serial communications module is correctly installed, you need to follow the instructions provided with it. For further information on the 1203-GD2, 1203-GK2, or 1336-GM2 communications modules, refer to publication 1203-5.5.

In most cases, you should use the factory-set defaults. If you decide to change the default settings, note the new settings because you will use them later.

For any change to take effect, you must remove and then re-apply power to your communications module.

**Important:** If you want to detect a loss of serial communications in DrivePanel32, you need to set the GD2 Timeout value to a value just large enough to avoid nuisance faults during normal operation. To set the GD2 Timeout value, select **Set GD2 Message Timeout** option from the **Options** menu in DrivePanel32.



**ATTENTION:** Hazard of injury exists. The Start/Stop/Jog functions of DrivePanel32 software rely on the integrity of software and communication with the drive. A malfunction in any process may cause loss of control and inability to stop the drive. An independent hardwired Stop device **MUST** be within your reach when using DrivePanel32 software to control the drive. DrivePanel32 software is designed to be a temporary control alternative during setup. DrivePanel32 software is not a substitute for primary operator controls that meet industry standards and local codes.

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## Configuring RSLinx for RS-232 Point-to-Point Serial Communications

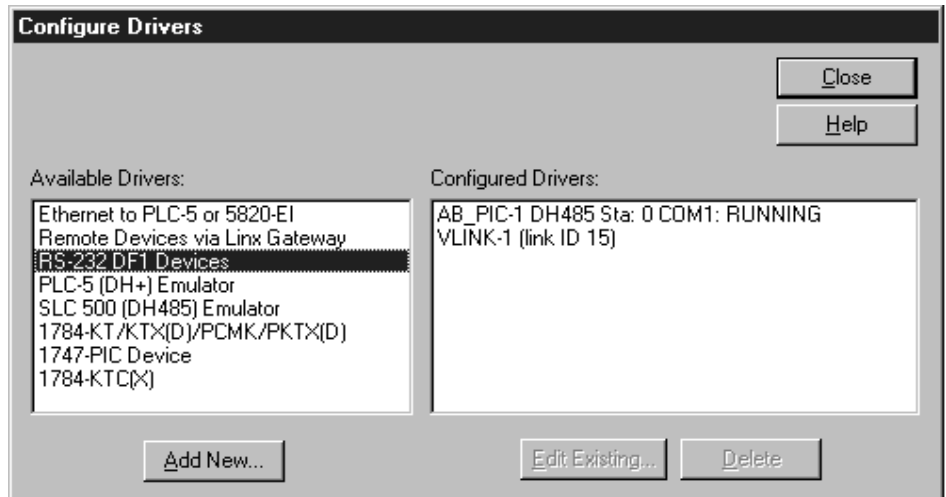
To use RSLinx for an RS-232 point-to-point serial communications system, you need to:

1. Configure the communication driver.
2. Test the configured driver.
3. Map the configured driver(s) to the KTPort Value.

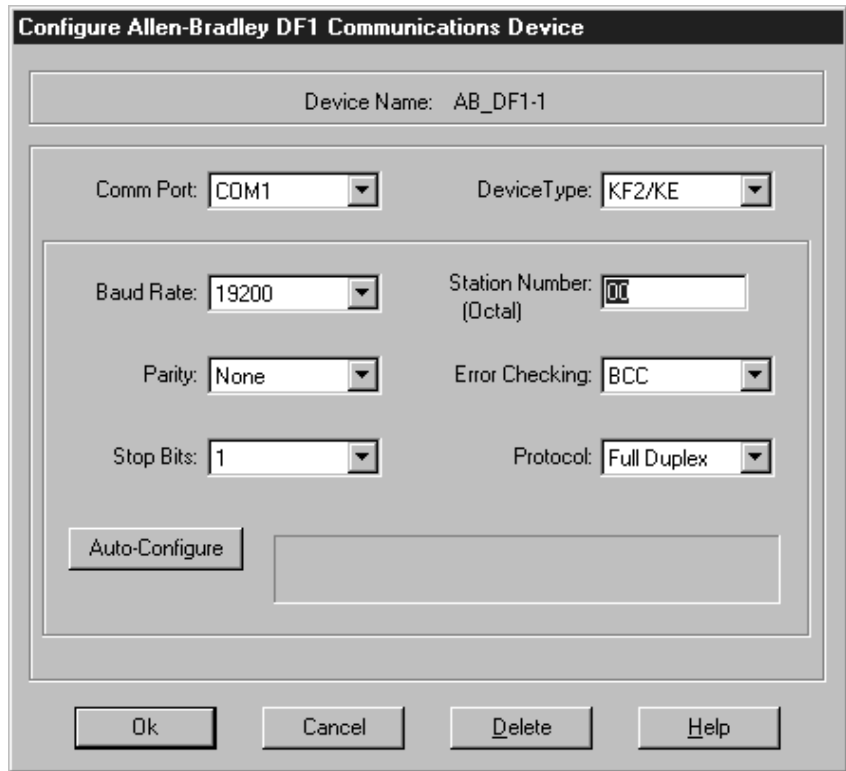
### Configuring the Communication Driver

To configure the communication driver, you need to:

1. Start the RSLinx application.
2. From the **Communications** menu, select **Configure Drivers**. The **Configure Drivers** dialog box appears.



3. Double-click **RS-232 DF1 Devices**. The **Configure Allen-Bradley DF1 Communications Device** dialog box appears.



4. Verify the information is correct.

**Important:** In the **Comm Port** field, you must enter the number of the Comm Port with which you intend to use DriveTools32.

**Important:** In the **Station Number** field, you must enter the station number that matches the GD2 module's address.

5. Click **OK**.

### Testing the Configured Driver

To test the configured driver, you need to:

1. Close the **Configure Drivers** dialog box.



- From the **Communications** menu, select **SuperWho**.

If you have only one configured driver, the communication between the node(s) on the network should be displayed.

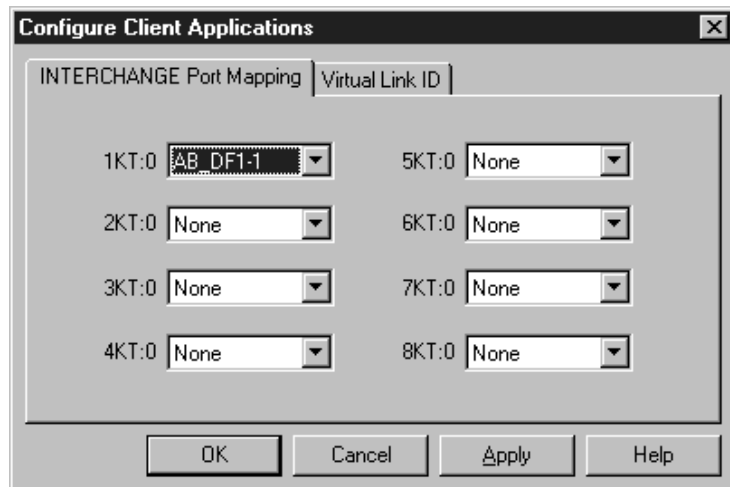
If you have more than one configured driver, double-click on the driver you just configured to view the communication between the node(s) on the network.

- Close the **SuperWho** window when you are finished.

### Mapping the Configured Driver(s) to the KTPort Value

To map the configured driver(s) to the KTPort value, you need to:

- From the **Communications** menu, select **Configure Client Applications**. The **Configure Client Applications** dialog box appears.



- Choose an unused **KT:0** field to map the DF1 device to.

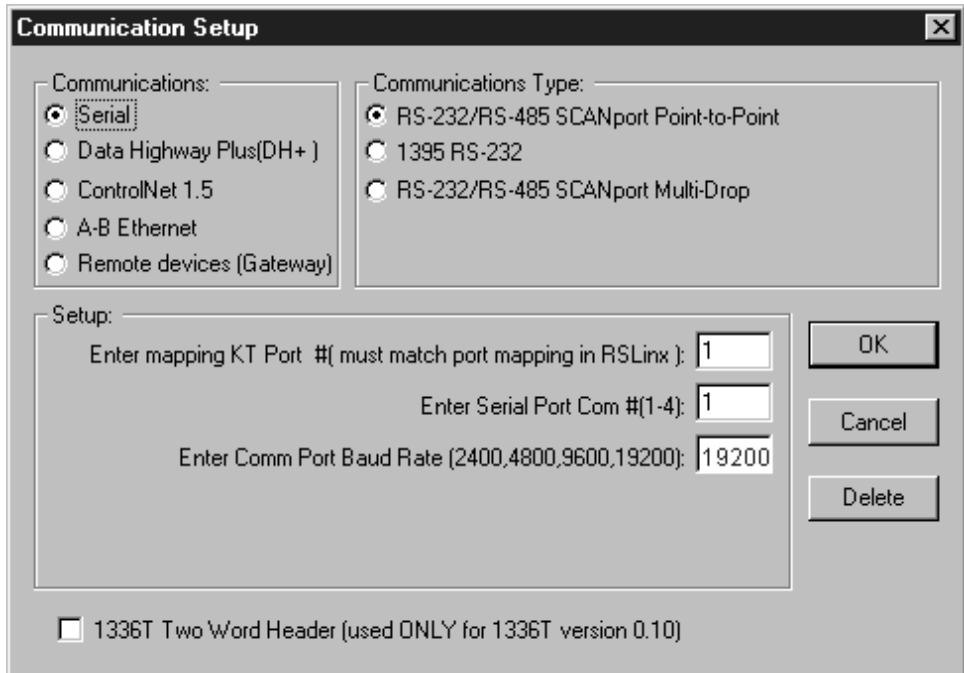
**Important:** When you use the **Communication Setup** option from within any of the DriveTools32 applications, you need to enter the RSLinx KT:0 number (i.e., 1 – 8) to which you just mapped the DF1 device. Enter the number in the **Enter mapping KT(X) Port # to use** field in the **Communication Setup** dialog box.

- Use the drop box for the field to map the configured driver to the port.
- Click **OK** or **Apply**.

## Setting the Communication Information

You need to provide DriveTools32 with some information that it needs to establish a connection between your PC and your drive. To do this, you need to:

1. Start the DriveManager32 application.
2. From the **Options** menu, select **Communication Setup**. The **Communication Setup** dialog box appears.



3. In the **Communications** section, select **Serial**.
4. In **Communications Type** field, select **RS-232/RS-485 SCANport Point-to-Point**.
5. In the **Enter mapping KT Port #** field, enter the value of the **KT:0** port used for DF1 communication in the **Configure Client Applications** dialog box.
6. In the **Enter Serial Port Com #** field, enter the number of the PC serial communications port that is being used. Valid port numbers are 1, 2, 3, and 4.

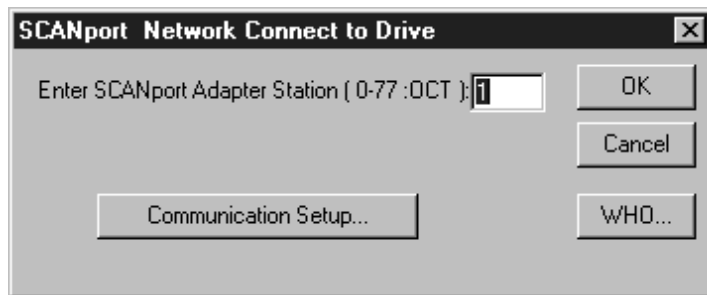
**Important:** You must use the same serial port number for which RSLinx is configured. To view the serial port settings on your PC, use the **Ports** function in the Windows **Control Panel** application.

7. In the **Enter Comm Port Baud Rate** field, enter the baud rate that your communications module and port are using. You can choose 2400, 4800, 9600, or 19200 baud.
8. If applicable, select **1336T Two Word Header (used ONLY for 1336T version 0.10)**.
9. Click **OK**.

## Connecting to the Drive

To connect to the drive, you need to:

1. From the **Drive** menu, select **Connect to Drive**. The **SCANport Network Connect to Drive** dialog box appears.



2. In the **Enter SCANport Adapter Station (0-77:Oct)** Field, enter the SCANport adapter station number. Valid station numbers are between 0 and 77.

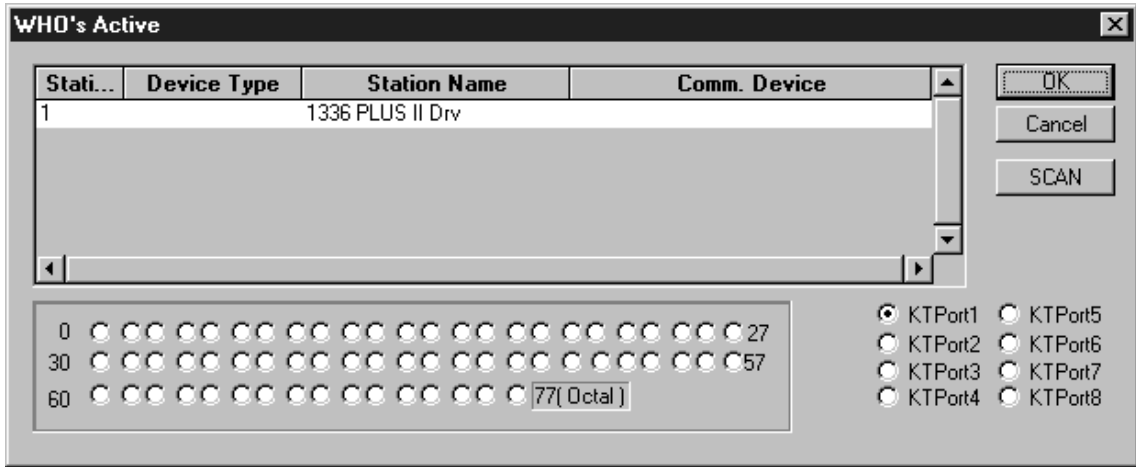
**Important:** You can use the **WHO** button to determine the station number. The **WHO** button is covered in further detail below.

3. Click **OK**.

After a short pause, either the DriveManager32 screen with the drive parameters appears, or you are prompted to create a database.

## Using the WHO Button

The **WHO** button is located on the **ScanPort Network Connect to Drive** dialog box to help you determine the station number for your drive. When you click the **WHO** button, the **WHO's Active** dialog box scans the SCANport list and displays the devices that are currently active. The following is an example of a **WHO's Active** dialog box.



To select a device:

1. Highlight the device.
2. Click **OK**.

The station number of the device that you select is used for the **Enter the SCANport Adapter Station (0-77 :OCT)** field on the **SCANport Network Connect to Drive** dialog box.

When you are using serial communications, the **WHO's Active** dialog box takes a few moments to complete the scan.

The main window displayed in the **WHO's Active** dialog box shows the information read from the network **WHO** command. The information consists of the following:

This field:	Specifies:
Station #	The network station number for each device on the network.
Device Type	The type of device that is associated with the network station number.
Station Name	The textual description contained in the device at the network station number.
Comm. Device	The communication device type as it is identified on the network.

The **WHO's Active** dialog box provides the following buttons:

- **SCAN**

Click **SCAN** to rescan the network to read station information.

- **KT Port x**

Lets you select an alternate RSLinx KT:0 communication driver. For RS-232 serial communications, this setting must match your RSLinx DF1 port settings.

**Notes:**

## Setting up an RS-232 Point-to-Point Serial Communications System for a 1395 Drive

### Chapter Objectives

This chapter provides information for configuring an RS-232 point-to-point serial communications system for a 1395 drive. After you finish reading this chapter, you will be able to perform the following tasks:

- Check your hardware installation.
- Disable RSLinx if it is using your PC's communications serial port.
- Enter information into the DriveTools32 application's **Communication Setup** dialog box.
- Begin communicating with your drive.

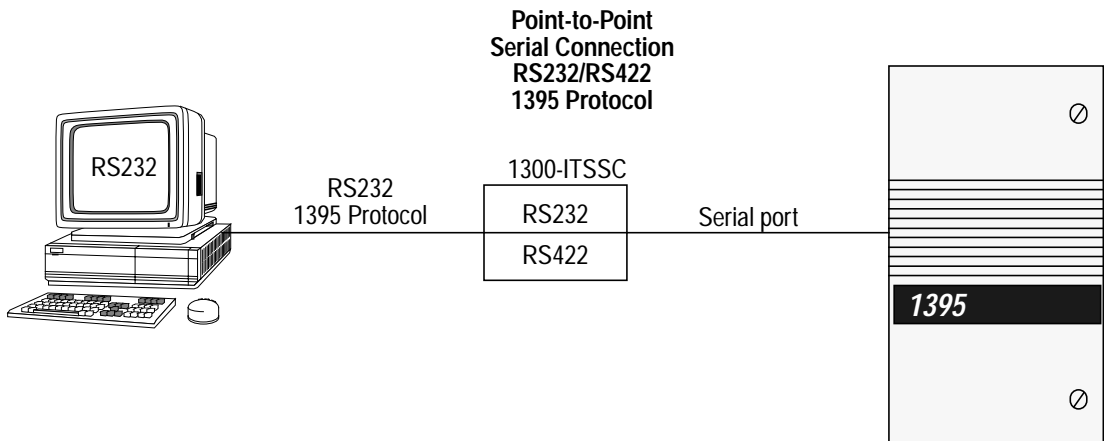
**Important:** The Control Panel controls in DrivePanel32 are disabled when communicating with a 1395 drive.

**Important:** DriveMonitor32 cannot use 1395 serial communications.

### What is an RS-232 Point-to-Point Serial Communications System for a 1395 Drive?

An RS-232 point-to-point serial communications system for a 1395 drive establishes a direct serial connection between your PC and your 1395 drive. An example of this type of configuration is shown in Figure 3.1.

Figure 3.1  
1395 RS-232 Point-to-Point Serial Communications



## Checking Your Hardware Installation

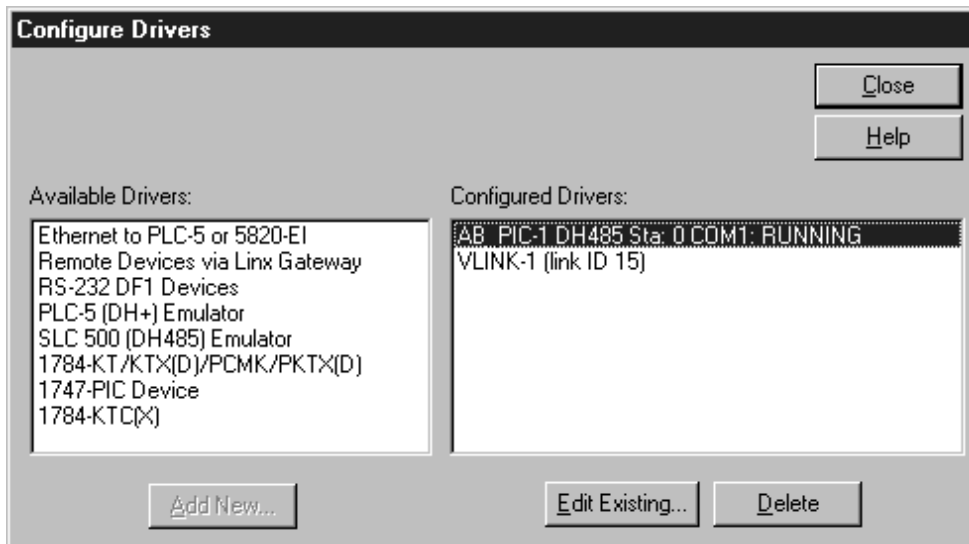
Before running DriveTools32, check to make sure that all cable connections between the drive and the PC are secure. Specifically, you should check that the following cables are firmly plugged in:

- The cable between the 1395 drive and the 1300-ITSSC communications module.
- The cable between the 1300-ITSSC communications module and your PC.

## Disabling RSLinx

Before starting DriveTools32, you must make sure RSLinx is disabled for the communications port you intend to use. To disable it, follow these instructions:

1. Start RSLinx.
2. From the **Communications** menu, select **Configure drivers**. The **Configure Drivers** dialog box appears.



3. If a configured driver using the communications port is running, select it in the **Configured Drivers** list. If no configured driver is running, go to step 5.
4. Click **Delete**. The driver is removed from the **Configured Drivers** list.
5. Close the **Configure Drivers** dialog box.



## Setting the Communication Information

To provide DriveTools32 with some information that it needs to establish a connection between your PC and your drive, you need to:

1. Start DriveManager32.
2. From the **Options** menu, select **Communication Setup**. The **Communication Setup** dialog box appears.

**Communication Setup**

Communications:

- Serial
- Data Highway Plus(DH+ )
- ControlNet 1.5
- A-B Ethernet
- Remote devices (Gateway)

Communications Type:

- RS-232/RS-485 SCANport Point-to-Point
- 1395 RS-232
- RS-232/RS-485 SCANport Multi-Devices

Setup:

Enter Serial Port Com #(1-4):

Enter Comm Port Baud Rate (2400, 4800):

DTR Pulse Delay (0 to calculate automatically):

DTR Pulse Width (0 to calculate automatically):

1336T Two Word Header (used ONLY for 1336T version 0.10)

OK Cancel Delete

3. In the **Communications** section, select **Serial**.
4. In the **Communications Type** section, select **1395 RS-232**.
5. In the **Enter Serial Port Com #** field, enter the number of the PC serial communications port that is being used. Valid port numbers are 1, 2, 3, and 4.

**Important:** You must use the same serial port number that your PC is set to. To view the serial port settings on your PC, use the **Ports** function in the **Windows Control Panel** application.

6. In the **Enter Comm Port Baud Rate** field, enter the baud rate that your communications port uses. You can choose either 2400 or 4800 baud.
7. In the **DTR Pulse Delay (0 to calculate automatically)** field, enter **0**.

**Important:** If your PC's transmission is too fast for the 1300-ITSSC adapter, you will have to increase the value for DTR Pulse Delay. Start at 1000 and increase the value by increments of 500 until communications work.

8. In the **DTR Pulse Width (0 to calculate automatically)** field, enter **0**.

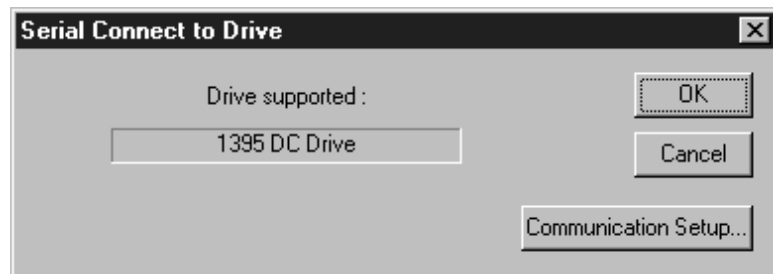
**Important:** If your PC's transmission is too fast for the 1300-ITSSC adapter, you will have to increase the value for DTR Pulse Width. Start at 50 and increase the value by increments of 10 until communications work.

9. Click **OK**.

## Connecting to the Drive

To connect to the drive, you need to:

1. From the **Drive** menu, select **Connect to Drive**. The Serial Connect to Drive dialog box appears.



2. Click **OK**.

After a short pause, either the DriveManager32 screen with the drive parameters appears, or you are prompted to create a database.

## Setting Up DH+ Direct Communications Systems

### Chapter Objectives

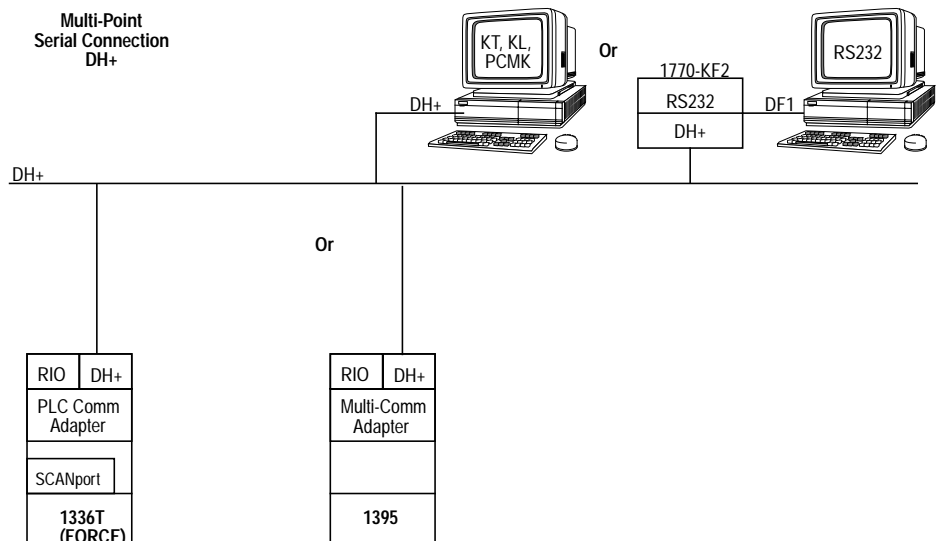
This chapter provides information for configuring a DH+ direct communication system. After you finish reading this chapter, you will be able to perform the following tasks:

- Check your hardware installation.
- Configure RSLinx for DH+ direct communications.
- Enter information into the DriveTools32 application's **Communication Setup** dialog box.
- Begin communicating with your drive.

### What is a DH+ Direct Communications System?

A Data Highway Plus (DH+) system lets your PC communicate directly with drives that are connected to the DH+ network using either an internal PC card (such as a 1784-KT, -KL, or -PCMK) or an external RS232 or DH+ converter module (such as a 1770-KF2). Figure 4.1 shows an example of a DH+ direct communication system.

**Figure 4.1**  
DH+ Direct Network



## Checking Your Hardware Installation

Before configuring RSLinx and running DriveTools32, you should check:

- All the cable connections between the drive and the PC are secure.
- Equipment is powered up.

## Configuring RSLinx for DH+ Direct Communications

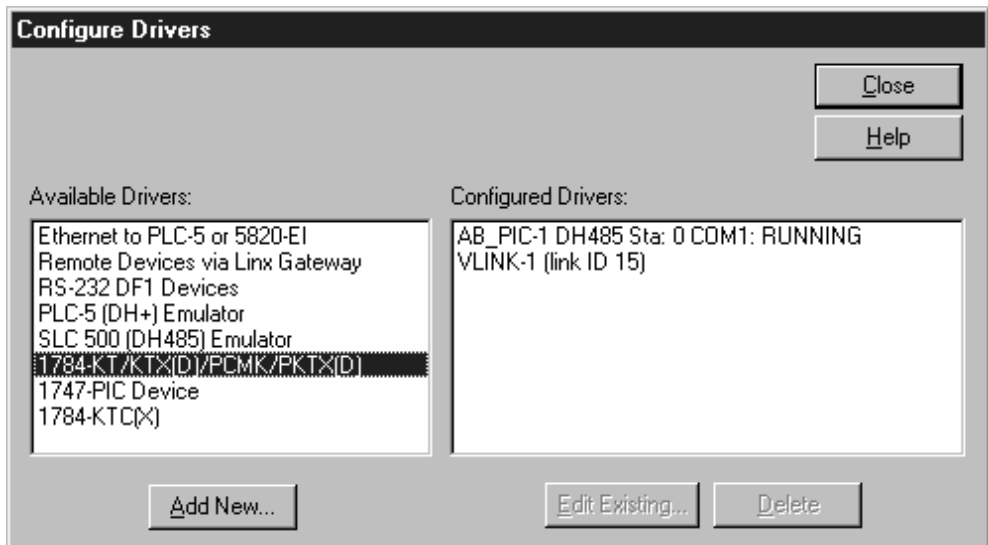
To use RSLinx for a DH+ communications system, you need to:

1. Configure the communication driver.
2. Test the configured driver.
3. Map the configured driver(s) to the KTPort Value.

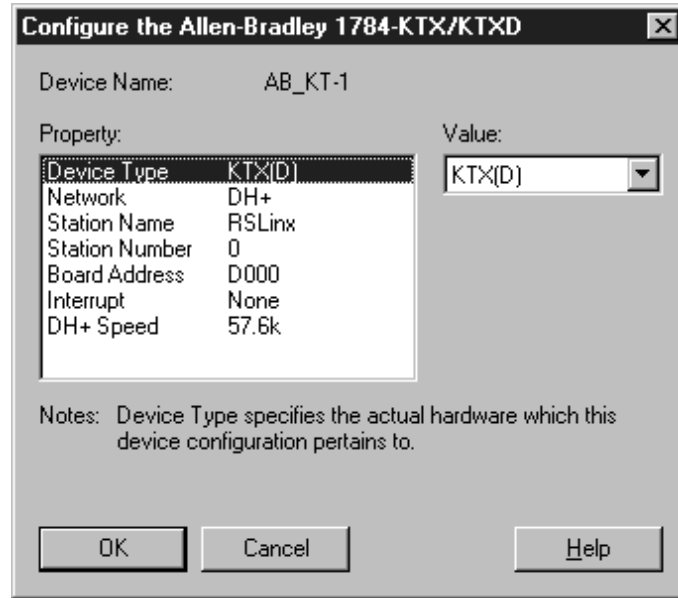
### Configuring the Communication Driver

To configure the communication driver, you need to:

1. Start the RSLinx application.
2. From the **Communications** menu, select **Configure Drivers**. The **Configure Drivers** dialog box appears.



3. Double-click on **1784-KT/KTX(D)/PCMK/PKTX(D)**. The **Configure Allen-Bradley 1784-KTX/KTXD** dialog box appears.



4. In the **Value** field, select the correct DH+ device for your configuration.
5. In the **Property** box, change any fields as required to match the settings needed for your DH+ interface card.
6. Click **OK**.

### Testing the Configured Driver

To test the configured driver, you need to:

1. Close the **Configure Drivers** dialog box.
2. From the **Communications** menu, select **SuperWho**.

If you have only one configured driver, the communication between the node(s) on the network should be displayed.

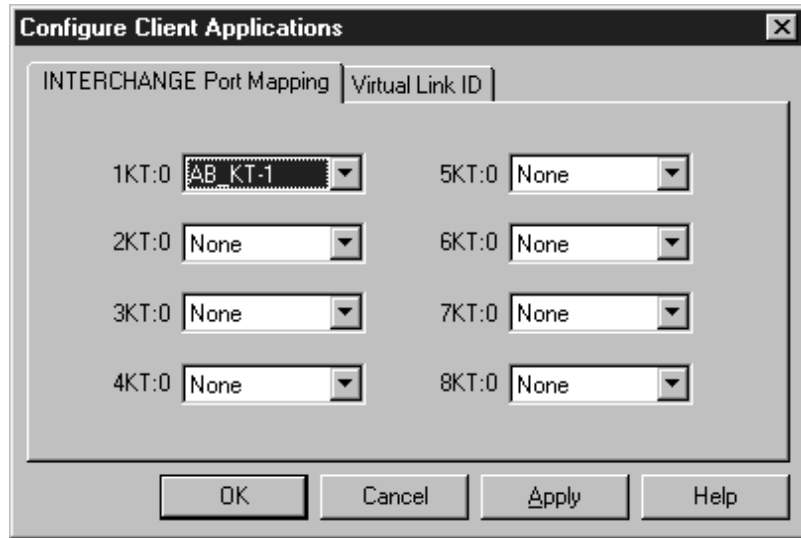
If you have more than one configured driver, double-click on the driver you just configured to view the communication between the node(s) on the network.

3. Close the **SuperWho** window when you are finished.

## Mapping the Configured Drive(s) to the KTPort Value

To map the configured driver(s) to the KTPort value, you need to:

1. From the **Communications** menu, select **Configure Client Applications**. The **Configure Client Applications** dialog box appears.



2. Choose an unused **KT:0** field to map the DH+ device to.

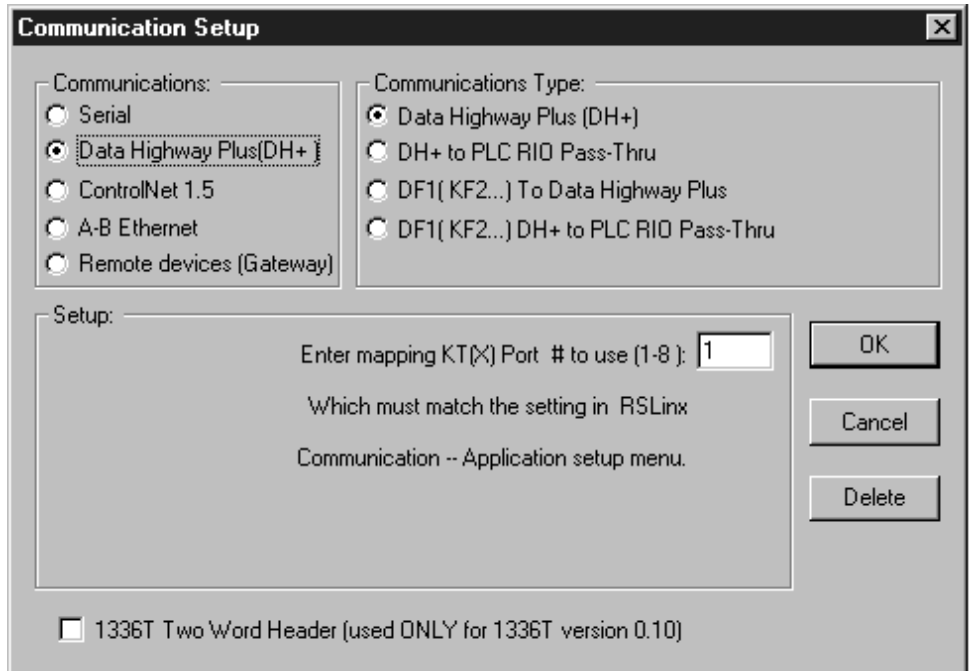
**Important:** When you use the **Communication Setup** option from within any of the DriveTools32 applications, you need to enter the RSLinx KT:0 number (i.e., 1 – 8) to which you just mapped your DH+ device. Enter this number in the **Enter mapping KT(X) Port # to use** field in the **Communication Setup** dialog box.

3. Use the drop box for the field to map the configured driver to the port.
4. Click **OK** or **Apply**.

## Setting the Communication Information for DH+ Direct

You need to provide DriveTools32 with some information that it needs to establish a connection between your PC and your drive. To do this, you need to:

1. Start DriveManager32.
2. From the **Options** menu, select **Communication Setup**. The **Communication Setup** dialog box appears.



3. In the **Communications** section, select **Data Highway Plus (DH+)**.
4. In the **Communications Type** section, select **Data Highway Plus (DH+)**.
5. In the **Enter mapping KT(x) Port # to use** field, enter the KT Port number.  
**Important:** The KT(x) port number must match the RSLinx KT:0 Port number for DH+ device in the **Configure Client Applications** dialog box.
6. If applicable, select **1336T Two Word Head (used ONLY for 1336T version 0.10)**.
7. Click **OK**.

## Configuring RSLinx for DF1 (KF2) to DH+ Communications

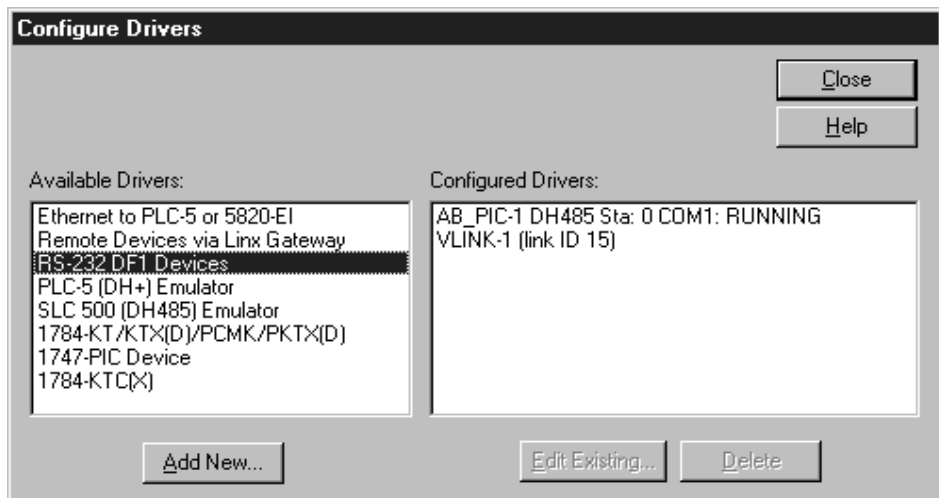
To use RSLinx for DF1 (KF2) to DH+ communications system, you need to:

1. Configure the communication driver.
2. Test the configured driver.
3. Map the configured driver(s) to the KTPort Value.

### Configuring the Communication Driver

To configure the communication driver, you need to:

1. Start the RSLinx application.
2. From the **Communications** menu, select **Configure Drivers**. The **Configure Drivers** dialog box appears.



3. Double-click **RS-232 DF1 Devices**. The **Configure Allen-Bradley DF1 Communications Device** dialog box appears.



**Configure Allen-Bradley DF1 Communications Device**

Device Name: AB\_DF1-1

Comm Port: COM1 DeviceType: KF2/KE

Baud Rate: 19200 Station Number: 00 (Octal)

Parity: None Error Checking: BCC

Stop Bits: 1 Protocol: Full Duplex

Auto-Configure

Ok Cancel Delete Help

4. Verify the information is correct.

**Important:** In the **Comm Port** field, you must enter the number of the Comm Port with which you intend to use DriveTooles32.

**Important:** In the **Station Number** field, you must enter the station number that matches the GD2 module's address.

5. Click **OK**.

### Testing the Configured Driver

To test the configured driver, you need to:

1. Close the **Configure Drivers** dialog box.
2. From the **Communications** menu, select **SuperWho**.

If you have only one configured driver, the communication between the node(s) on the network should be displayed.

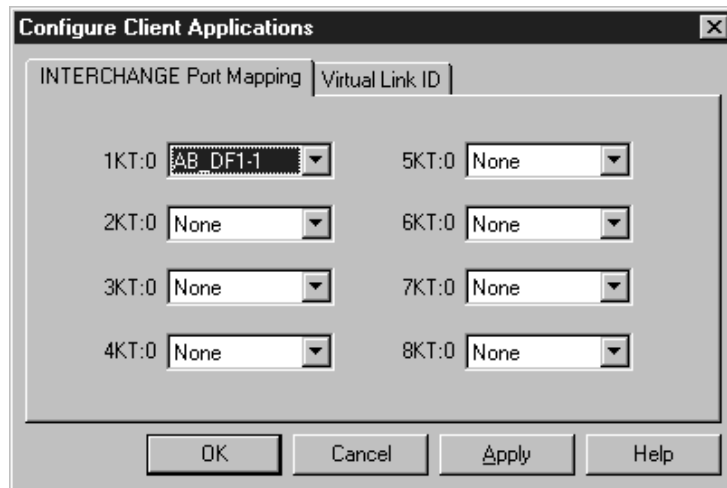
If you have more than one configured driver, double-click on the driver you just configured to view the communication between the node(s) on the network.

3. Close the **SuperWho** window when you are finished.

### Mapping the Configured Driver(s) to the KTPort Value

To map the configured driver(s) to the KTPort value, you need to:

1. From the **Communications** menu, select **Configure Client Applications**. The **Configure Client Applications** dialog box appears.



2. Choose an unused **KT:0** field to map the DF1 device to.

**Important:** When you use the **Communication Setup** option from within any of the DriveTools32 applications, you need to enter the RSLinx KT:0 number (i.e., 1 – 8) to which you just mapped the DF1 device. Enter the number in the **Enter mapping KT(X) Port # to use** field in the **Communication Setup** dialog box.

3. Use the drop box for the field to map the configured driver to the port.
4. Click **OK** or **Apply**.

## Setting the Communication Information for DF1(KF2) to DH+

You need to provide DriveTools32 with some information that it needs to establish a connection between your PC and your drive. To do this, you need to:

1. Start DriveManager32.
2. From the **Options** menu, select **Communication Setup**. The **Communication Setup** dialog box appears.

**Communication Setup**

Communications:

- Serial
- Data Highway Plus(DH+)
- ControlNet 1.5
- A-B Ethernet
- Remote devices (Gateway)

Communications Type:

- Data Highway Plus (DH+)
- DH+ to PLC RIO Pass-Thru
- DF1( KF2...) to Data Highway Plus
- DF1( KF2...) DH+ to PLC RIO Pass-Thru

Setup:

Enter mapping Port # to use FOR DF1 drivers:

Enter Serial Port Com #(1-4):

Enter Comm Port Baud Rate (2400,4800,9600,19200):

1336T Two Word Header (used ONLY for 1336T version 0.10)

OK

Cancel

3. In the **Communications** section, select **Data Highway Plus (DH+)**.
4. In the **Communications Type** section, select **DF1 (KF2) To Data Highway Plus (DH+)**.
5. In the **Enter mapping Port # to use FOR DF1 drivers** field, enter the KT:0 Port number.

**Important:** The port number must match the RSLinx KT:0 Port number for the DF1 device in the **Configure Client Applications** dialog box.

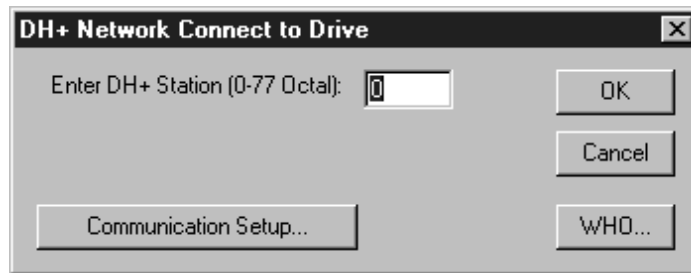
6. In the **Enter Serial Port Com #** field, enter the number of the PC serial communications port that is being used.
7. In the **Enter Comm Port Baud Rate** field, enter the baud rate that your communications module and port are using. You can choose 2400, 4800, 9600, or 19200 baud.

8. If applicable, select **1336T Two Word Head (used ONLY for 1336T version 0.10)**.
9. Click **OK**.

## Connecting to the Drive

To connect to the drive, you need to:

1. From the **Drive** menu, select **Connect to Drive**. The **DH+ Network Connect to Drive** dialog box appears.



2. Enter the DH+ station number. The DH+ station number is the DH+ address for the drive. Valid station numbers are octal values between 0 and 77.

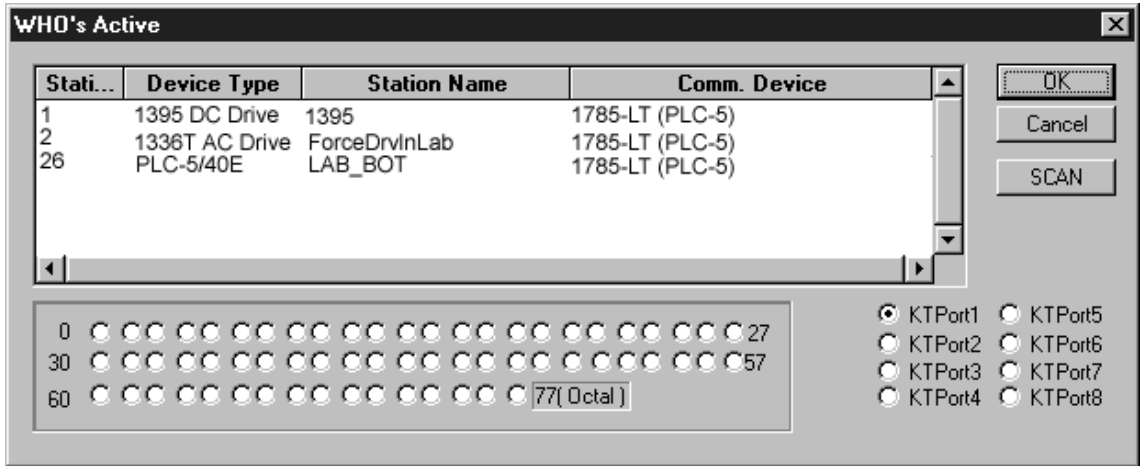
**Important:** You can use the **WHO** button to determine the station number. The **WHO** button is covered in further detail below.

3. Click **OK**.

After a short pause, either the DriveManager32 screen with the drive parameters appears, or you are prompted to create a database.

## Using the WHO Button

The **WHO** button is located on the **DH+ Network Connect to Drive** dialog box to help you determine the station number for your drive. When you click **WHO**, the **WHO's Active** dialog box scans the DH+ Network and displays the devices that are currently active. The following is an example of a **WHO's Active** dialog box.



To select a device:

1. Highlight the device.
2. Click **OK**.

The station number of the device that you selected is used for the **Enter DH+ (0-77 :Octal)** field on the **DH+ Network Connect to Drive** dialog box.

The main window displayed in the **WHO's Active** dialog box shows the information read from the network WHO command. The information consists of the following:

This field:	Specifies:
Station #	The network station number for each device on the network.
Device Type	The type of device that is associated with the network station number.
Station Name	The textual description contained in the device at the network station number. The Bulletin 1395 drive does not support a network station name. Therefore, the name shown on the network map is the same for all 1395 drives.
Comm. Device	The communication device type as it is identified on the network.

The **WHO's Active** dialog box provides the following buttons:

- **SCAN**

Click on the **SCAN** button to rescan the network to read station information.

- **KT Port x**

The **KT Port** radio buttons let you change the currently selected DH+ network KT card from within the **WHO's Active** dialog box. When you change the KT port definition, the dialog rescans the network based on the new setting.

## Setting Up a DH+ to RIO Block Transfer Pass Thru Communications System

### Chapter Objectives

This chapter provides information for configuring a communication system that uses DH+ to Remote I/O (RIO) Block Transfer Pass Thru. After you finish reading this chapter, you will be able to perform the following tasks:

- Check your hardware installation.
- Configure RSLinx for DH+ to RIO Block Transfer Pass Thru communications.
- Enter information into the DriveTools32 application's **Communication Setup** dialog box.
- Begin communicating with your drive.

### What is a DH+ to RIO Block Transfer Pass Thru Communications System?

A Data Highway Plus (DH+) to RIO Block Transfer Pass Thru communications system lets your PC communicate with drive products using the PLC-5 RIO Block Transfer Pass Thru mechanism.

**Important:** A DH+ to RIO Block Transfer Pass Thru communications system also works with an SLC-500 family processor using a Series B 1747-SN RIO scanner in slot 1.

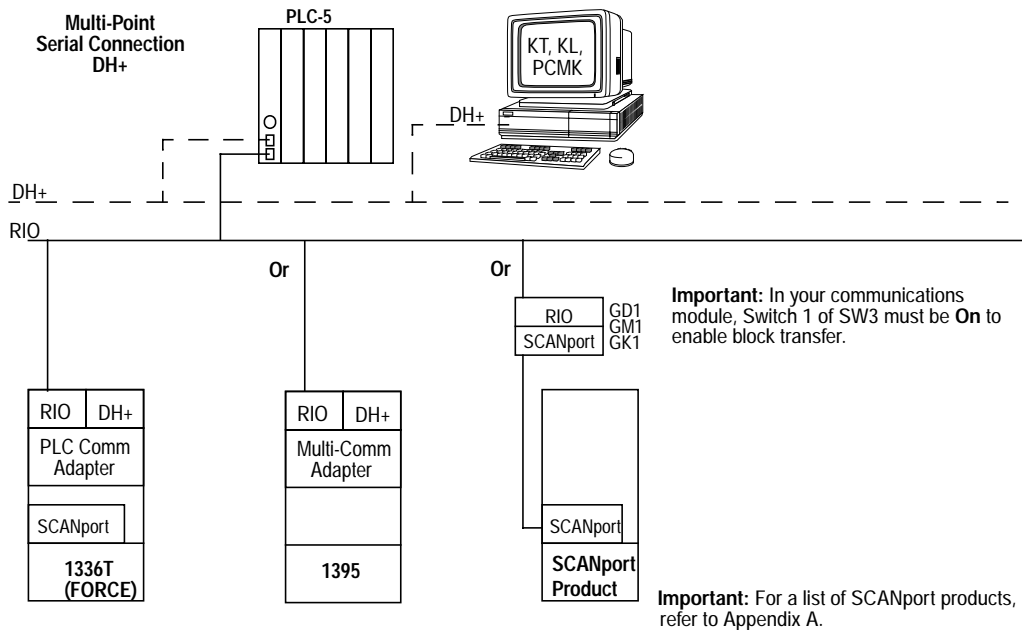
The RIO Block Transfer Pass Thru mechanism requires that a drive be connected to a PLC-5 as an RIO device on the PLC's RIO network. You can connect a drive as an RIO device using several different hardware options depending on the drive type. These options include:

This drive:	Requires that you use the hardware option:
1395	Node adapter (1395-KP50) or multi-communications adapter (1395-KP51)
SCANport-Compatible Products	1203 Remote I/O Communications Module (1203-GD1, 1203-GK1, or 1336-GM1)
1336 (FORCE)	PLC Communications Adapter Board (1336T-GT1EN) or 1203 Remote I/O Communications Module (1203-GD1, 1203-GK1, or 1336-GM1)

To communicate with a drive over RIO, you need to set the drive's RIO adapter up so that it appears to be an adapter to a PLC RIO scanner. To do this, you need to specify the rack and group number where the drive is to appear on the RIO network. You will do this during the Connecting to the Drive step. You should refer to the documentation for your drive and the communications module for information on configuring the drive as an RIO device.

Figure 5.1 shows an example of a DH+ to RIO Block Transfer Pass Thru communications system.

**Figure 5.1**  
**DH+ to RIO Block Transfer Pass Thru Network**



**Important:** RIO Block Transfer Pass Thru communications to drives take approximately 2 seconds per point, and the PLC acting as the gateway must not use any Block Transfer instructions addressed to the drive in its ladder logic program.

**Important:** DriveMonitor32 and DriveBlockEditor32 cannot be used with RIO Block Transfer Pass Thru communications systems.

**Important:** For RIO Block Transfer Pass Thru communications to work, the PLC to which the drive is connected must be in RUN mode. If the PLC is not in RUN mode, pass thru messages cannot be delivered to the connected drive product.



## Checking Your Hardware Installation

Before configuring RSLinx and running DriveTools32, you should check:

- All cable connections between the drive and PC are secure.
- If you are using a 1203-GD1, 1203-GK1, or 1336-GM1 communications module, Switch 1 of SW3 must be **On** to enable block transfer.
- Power is applied to the drive.

## Configuring RSLinx for DH+ to RIO Block Transfer Pass Thru Communications

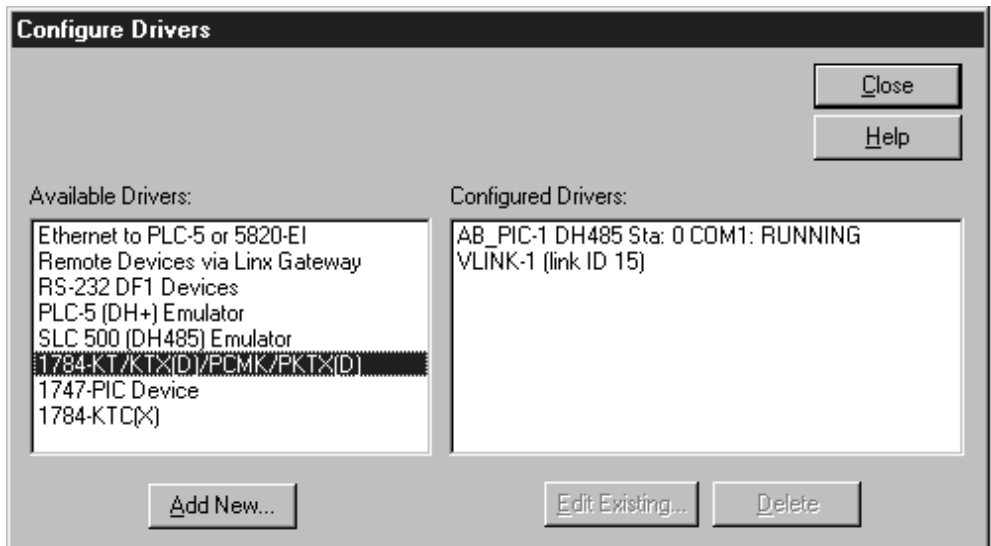
To use RSLinx for a DH+ communications system, you need to:

1. Configure the communication driver.
2. Test the configured driver.
3. Map the configured driver(s) to the KTPort Value.

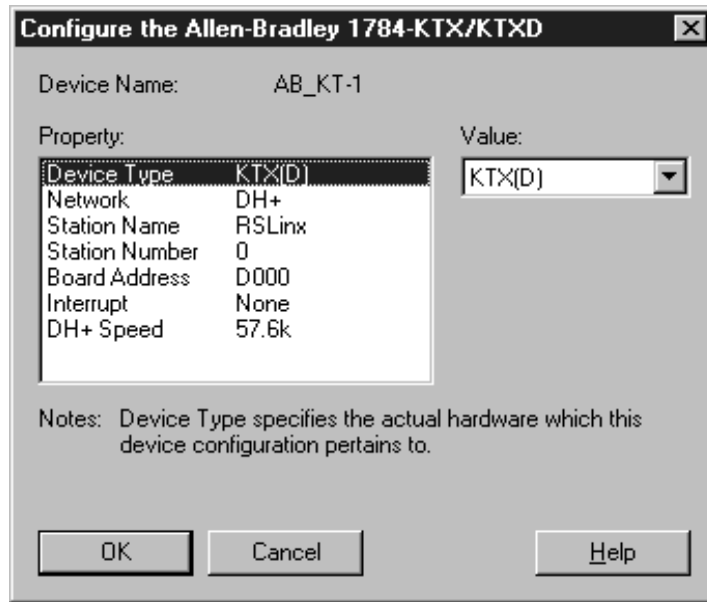
### Configuring the Communication Driver

To configure the communication driver, you need to:

1. Start the RSLinx application.
2. From the **Communications** menu, select **Configure Drivers**. The **Configure Drivers** dialog box appears.



3. Double-click **1784-KT/KTX(D)/PCM/KPKTX(D)**. The **Configure Allen-Bradley 1784-KTX/KTXD** dialog box appears.



4. In the **Value** field, select the correct DH+ device for your configuration.
5. In the **Property** box, change any fields as required to match the settings needed for your DH+ interface card.
6. Click **OK**.

### Testing the Configured Driver

To test the configured driver, you need to:

1. Close the **Configure Drivers** dialog box.
2. From the **Communications** menu, select **SuperWho**.

If you have only one configured driver, the communication between the node(s) on the network should be displayed.

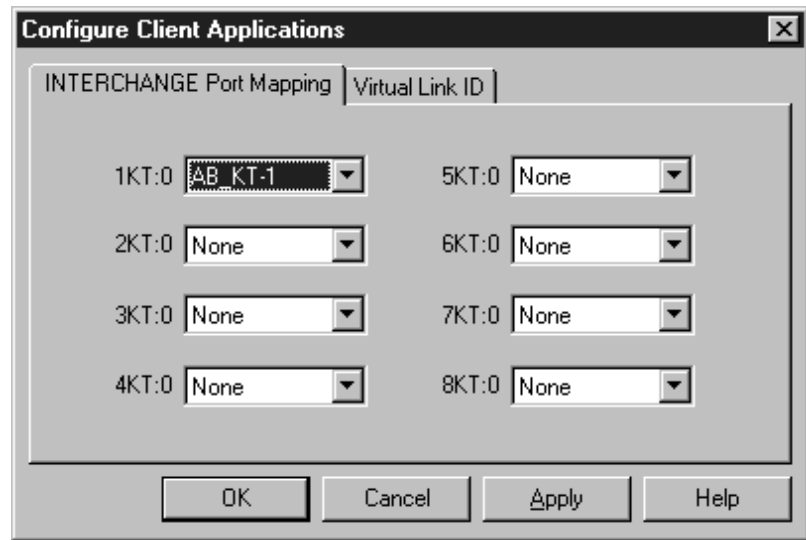
If you have more than one configured driver, double-click on the driver you just configured to view the communication between the node(s) on the network.

3. Close the **SuperWho** window when you are finished.

## Mapping the Configured Driver(s) to the KPort Value

To map the configured driver(s) to the KPort value, you need to:

1. From the **Communications** menu, select **Configure Client Applications**. The **Configure Client Applications** dialog box appears.



2. Choose an unused **KT:0** field to map the DH+ device to.

**Important:** When you use the **Communication Setup** option from within any of the DriveTools32 applications, you need to enter the RSLinx KT:0 number (i.e., 1 – 8) to which you just mapped the DH+ device. Enter the number in the **Enter mapping KT(X) Port # to use** field in the **Communication Setup** dialog box.

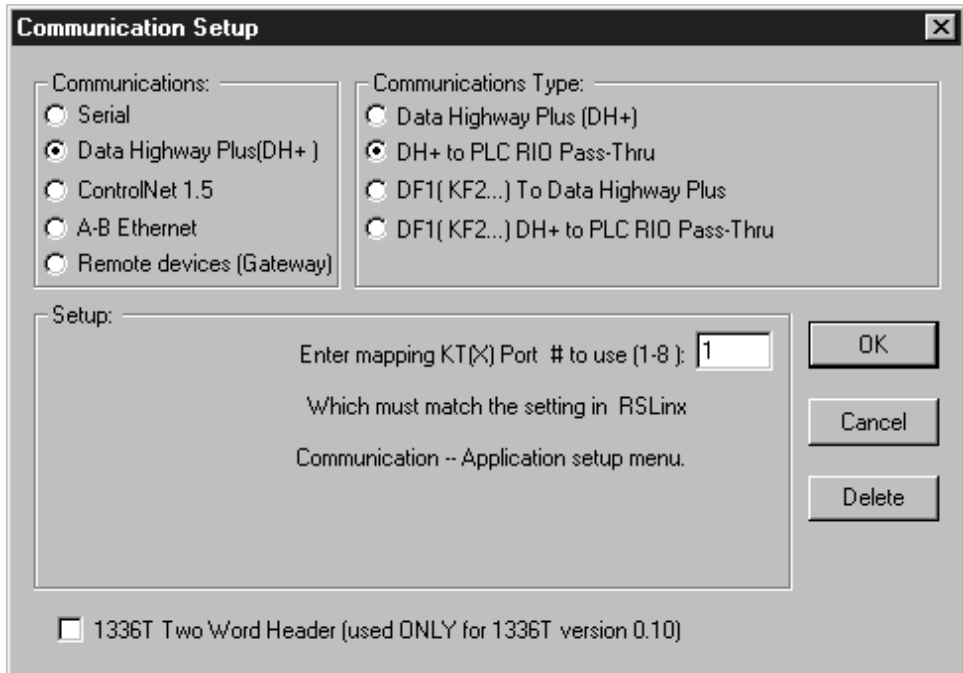
3. Use the field's drop box to map the configured driver to the port.
4. Click **OK** or **Apply**.

**Important:** When using RIO Block Transfer Pass Thru for drive communications from the PC, you **cannot** use Block Transfer messages in the PLC program for this drive.

## Setting the Communication Information

To provide the DriveTools32 with information that it needs to establish a connection between your PC and your drive, you need to:

1. Start DriveManager32.
2. From the **Options** menu, select **Communication Setup**. The **Communication Setup** dialog box appears.



3. In the **Communications** section, select **Data Highway Plus (DH+)**.
4. In the **Communications Type** section, select **DH+ to PLC RIO Pass-Thru**.
5. In the **Enter mapping KT(x) Port # to use** field, enter the KT Port number.

**Important:** The KT(x) Port number must match the RSLinx KT:0 Port number used for the DH+ device in the **Configure Client Applications** dialog box.

6. If applicable, select **1336T Two Word Header (used ONLY for 1336T version 0.10)**.
7. Click **OK**. A window displaying information about RIO Block Transfer Pass Thru communications appears.
8. Read the information and click **OK**.

## Connecting to the Drive

To connect to the drive, you need to:

1. From the **Drive** menu, select **Connect to Drive**. The **RIO Pass Through Network Connect to Drive** dialog box appears.

**RIO Pass Through Network Connect to Drive**

Enter PLC( SLC ) DH+ Station(0-77 Octal)

Enter Drive Rack # (Octal):

Enter Starting Group # (0,2,4,6):

Use 1395 Protocol

PLC Type  
 SLC Type

OK  
Cancel  
WHO...

Communication Setup...

**IMPORTANT:** RIO Pass Thru is only supported for SCANport based devices and the 1395 drive. If the 1395 drive is being used, you MUST check the above checkbox.

2. In the **Enter PLC (SLC) DH+ Station** field, enter the DH+ station number.

The DH+ station number is the DH+ address of the PLC-5 that has the drive connected to its RIO channel.

Valid station numbers are octal values between 0 and 77. If you are using a 1395 drive with a Multi-Comm board or a 1336 FORCE drive with a PLC Communications Adapter Board, the station number is set on the communications board.

**Important:** You can use the **WHO** button to determine the station number. The **WHO** button is explained in further detail below.

3. Select either **PLC Type** or **SLC Type**.

**Important:** If you are using SLC type, the SLC RIO scanner must be in slot 1.

4. In the **Enter Drive Rack #** field, enter the RIO rack number associated with this drive.

The rack number is specified in octal and is set in the communication hardware module for the drive.

5. In the **Enter Starting Group #** field, enter the RIO starting group number associated with this drive.

The RIO starting group number is set in the communication hardware module for the drive. Valid numbers are 0, 2, 4, and 6.



The main window displayed in the **WHO's Active** dialog box shows the information read from the network **WHO** command. The information consists of the following:

This field:	Specifies:
Station #	The network station number for each device on the network.
Device Type	The type of device that is associated with the network station number.
Station Name	The textual description contained in the device at the network station number. The Bulletin 1395 drive does not support a network station name. Therefore, the name shown on the network map is the same for all 1395 drives.
Comm. Device	The communication device type as it is identified on the network.

The **WHO's Active** dialog box provides the following buttons:

- **SCAN**

Click on the **SCAN** button to rescan the network to read station information.

- **KT Port x**

The **KT Port** radio buttons let you change the currently selected DH+ network **KT** card from within the **WHO's Active** dialog box. When you change the **KT** port definition, the dialog rescans the network based on the new setting.

**Notes:**



## Setting Up a ControlNet Direct Communications System

### Chapter Objectives

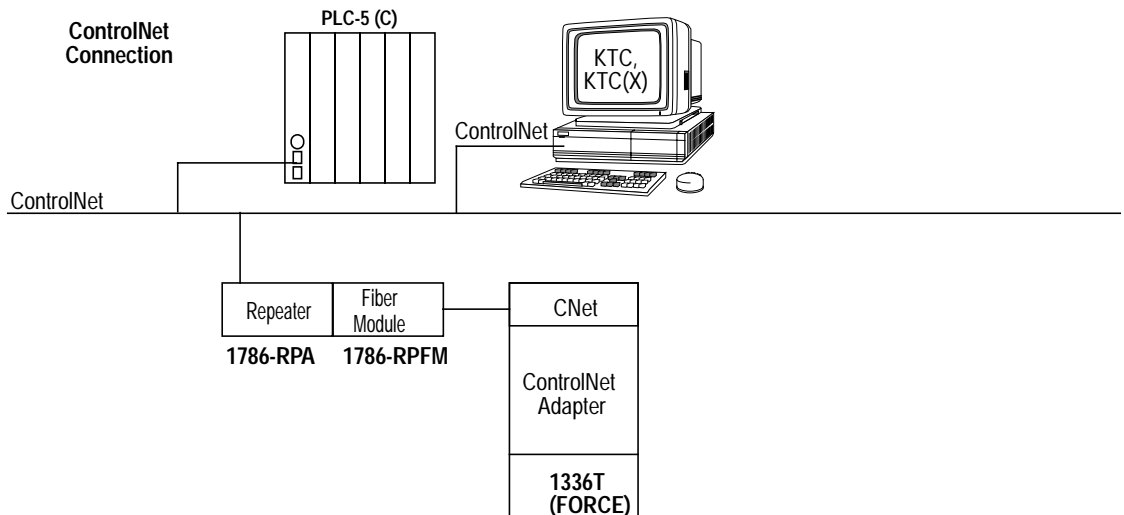
This chapter provides information for configuring a ControlNet communications system. After finishing this chapter, you will be able to perform the following tasks:

- Check your hardware installation.
- Configure RSLinx for ControlNet direct communications.
- Enter information into the DriveTools32 application's **Communication Setup** dialog box.
- Begin communicating with your drive.

### What is a ControlNet Communications System?

ControlNet is a real-time, control-layer network providing high-speed deterministic transport of both time-critical I/O data and messaging data. The following is an example of this type of configuration:

**Figure 6.1**  
**ControlNet Communications System**



**Important:** You cannot use DrivePanel32 to control a drive over a ControlNet network.

## Checking Your Hardware Installation

Before setting up RSLinx and running DriveTools32, you should check your hardware installation. You should:

- Have a ControlNet interface device. For example, a 1784-KTC(X) board is installed correctly in your PC.
- Check to make sure all cable connections between the drive and PC are secure.
- Have a ControlNet Repeater Adapter and ControlNet Fiber Module connecting the network to your drive.

## Configuring RSLinx for ControlNet Direct Communications

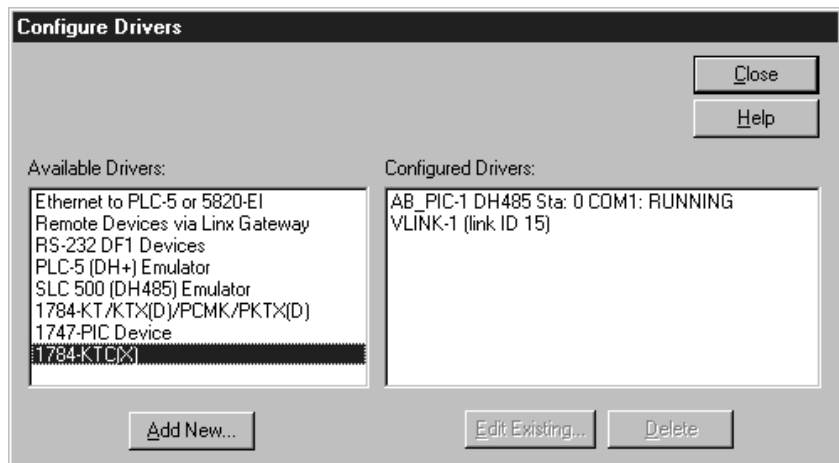
To use RSLinx for a ControlNet direct communications system, you need to:

1. Configure the communication driver.
2. Test the configured driver.
3. Map the configured driver(s) to the KTPort Value.

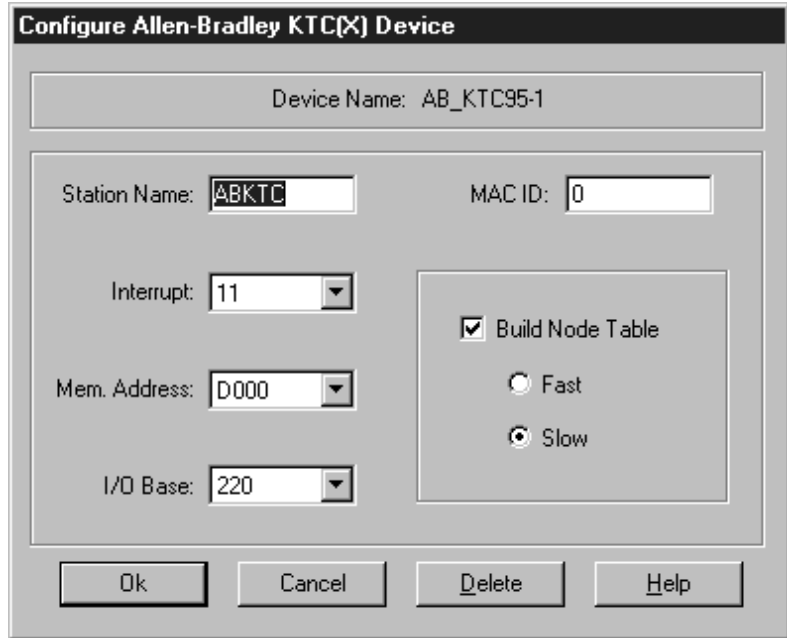
### Configuring the Communication Driver

To configure the communication driver, you need to:

1. Start the RSLinx application.
2. From the **Communications** menu, select **Configure Drivers**. The **Configure Drivers** dialog box appears.



3. Double-click **1784-KTC(X)**. The **Configure Allen-Bradley 1784-KTC(X)** dialog box appears.



4. Verify the information is correct.
5. Click **OK**.

### Testing the Configured Driver

To test the configured driver, you need to:

1. Close the **Configure Drivers** dialog box.
2. From the **Communications** menu, select **SuperWho**.

If you have only one configured driver, the communication between the node(s) on the network should be displayed.

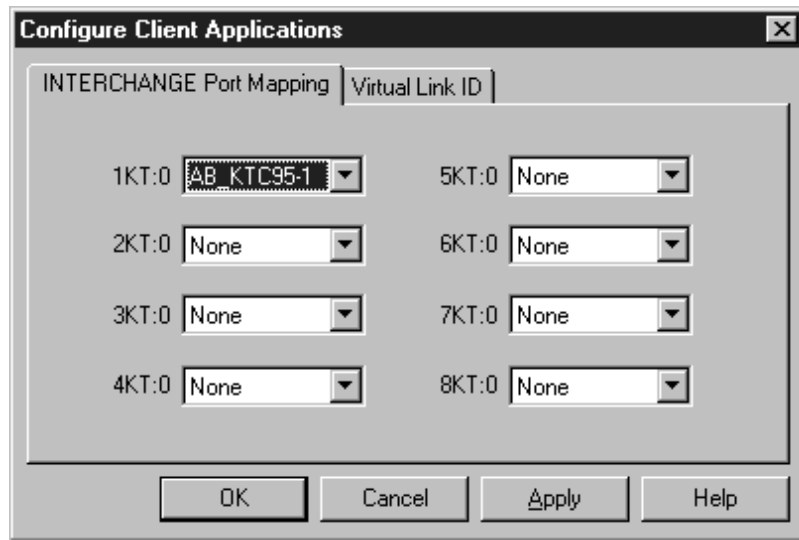
If you have more than one configured driver, double-click on the driver you just configured to view the communication between the node(s) on the network.

3. Close the **SuperWho** window when you are finished.

## Mapping the Configured Driver(s) to the KTPort Value

To map the configured driver(s) to the KTPort value, you need to:

1. From the **Communications** menu, select **Configure Client Applications**. The **Configure Client Applications** dialog box appears.



2. Choose an unused **KT:0** field to map the ControlNet device to.

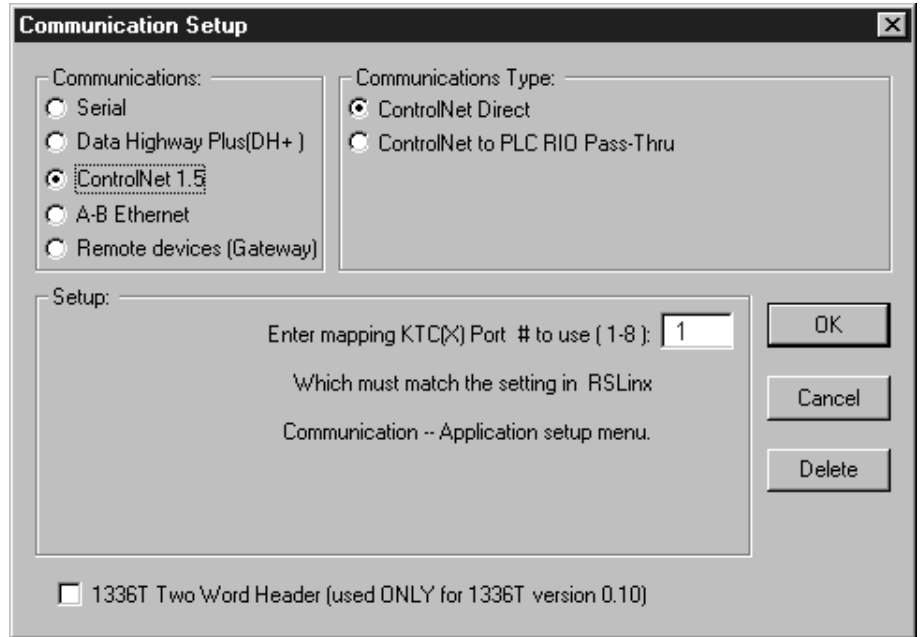
**Important:** When you use the **Communication Setup** option from within any of the DriveTools32 applications, you need to enter the RSLinx KT:0 number (i.e., 1 – 8) to which you just mapped the ControlNet device. Enter this number in the **Enter mapping KT(X) Port # to use** field in the **Communication Setup** dialog box.

3. Use the drop box for the field to map the configured driver to the port.
4. Click **OK** or **Apply**.

## Setting the Communication Information

To provide the DriveTools32 with information that it needs to establish a connection between your PC and your drive, you need to:

1. Start DriveManager32.
2. From the **Options** menu, select **Communication Setup**. The **Communication Setup** dialog box appears.



3. In the **Communications** section, select **ControlNet 1.5**.
4. In the **Communications Type** section, select **ControlNet Direct**.
5. In the **Enter mapping KTC(X) Port # to use** field, enter the KT Port number.

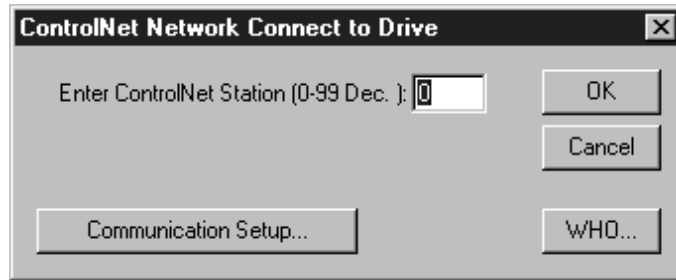
**Important:** The KTC(X) Port number must match the RSLinx KT:0 Port number used for the ControlNet device in the **Configure Client Applications** dialog box.

6. If applicable, select **1336T Two Word Header (use ONLY for 1336T version 0.10)**.
7. Click **OK**.

## Connecting to the Drive

To connect to the drive, you need to:

1. From the **Drive** menu, select **Connect to Drive**. The **ControlNet Network Connect to Drive** dialog box appears.



2. In the **Enter ControlNet Station** field, enter the ControlNet station number for the 1336 FORCE drive.

Valid station numbers are decimal values between 0 and 99. The station number is set on the PLC Communications Adapter board on the 1336 FORCE. For more information, consult the 1336-GT3EN user manual.

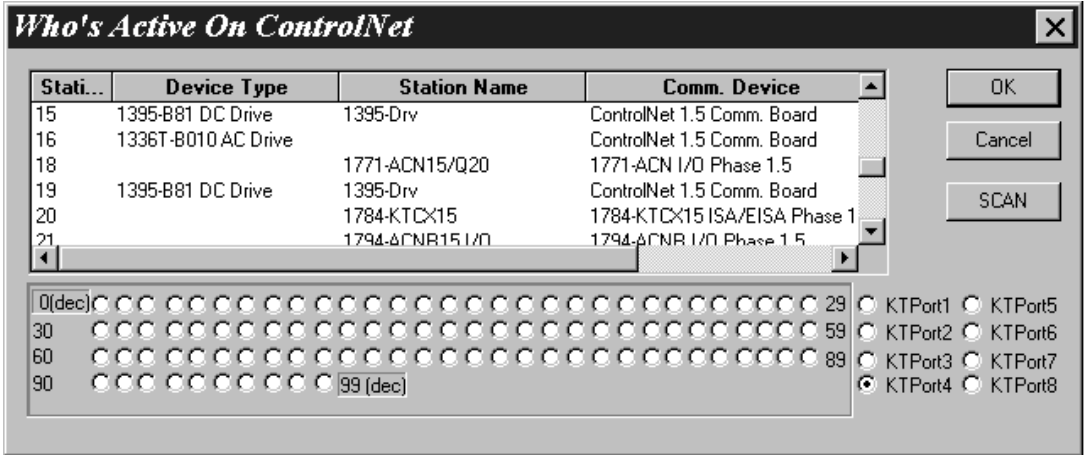
**Important:** You can use the **WHO** button to determine the station number. The **WHO** button is covered in further detail below.

3. Click **OK**.

After a short pause, either the DriveManager32 screen with the drive parameters appears, or you are prompted to create a database.

## Using the WHO Button

The **WHO** button is located on the **ControlNet Network Connect to Drive** dialog box to help you determine the station number for your drive. When you click **WHO**, the **WHO's Active** dialog box scans the network and displays the devices that are currently active. The following is an example of a **WHO's Active** dialog box.



To select a device:

1. Highlight the device.
2. Click **OK**.

The station number of the device that you selected is used for the **Enter ControlNet Station (0-99 Dec.)** field on the **ControlNet Network Connect to Drive** dialog box

When you are using ControlNet communications, the **WHO's Active** dialog box quickly completes the scan.

The main window displayed in the **WHO's Active** dialog box shows the information read from the network WHO command. The information consists of the following:

This field:	Specifies:
Station #	The network station number for each device on the network.
Device Type	The type of device that is associated with the network station number.
Station Name	The textual description contained in the device at the network station number. The Bulletin 1395 drive does not support a network station name. Therefore, the name shown on the network map is the same for all 1395 drives.
Comm. Device	The communication device type as it is identified on the network.

The **WHO's Active** dialog box provides the following buttons:

- **SCAN**

Click **SCAN** to rescan the network to read station information.

- **KT Port x**

The **KT Port** radio buttons let you change the currently selected ControlNet network KT card from within the **WHO's Active** dialog box. When you change the KT port definition, the dialog rescans the network based on the new setting.



## Setting Up an Allen-Bradley Ethernet to RIO Block Transfer Pass Thru Communications System

### Chapter Objectives

This chapter provides information for configuring an Allen-Bradley Ethernet communications system. After finishing this chapter, you will be able to perform the following tasks:

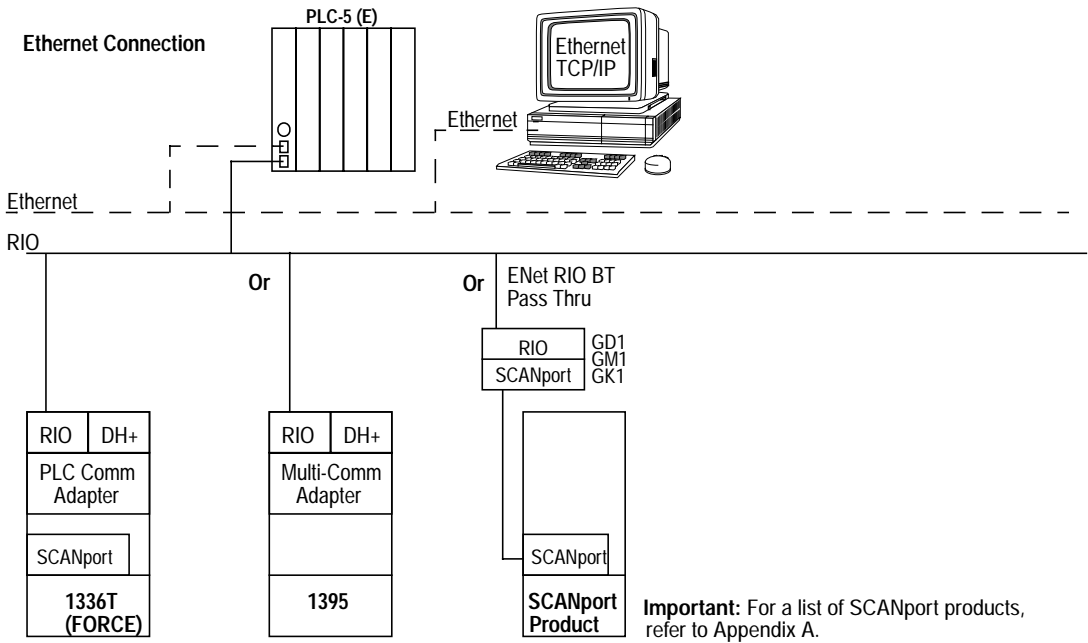
- Check your hardware installation.
- Configure RSLinx for Ethernet to RIO Block Transfer Pass Thru communications.
- Enter information into the DriveTools32 application's **Communication Setup** dialog box.
- Begin communicating with your drive.

### What is an Ethernet Communications System?

Ethernet is a local area network (LAN) that provides non-deterministic data transport. The following is an example of this type of configuration.

**Important:** An Ethernet communications system cannot and should not be used for controlling a device.

**Figure 7.1**  
**Allen-Bradley Ethernet Communications System**



**Important:** RIO Block Transfer Pass Thru communications to drives take approximately 2 seconds per point, and the PLC acting as the gateway must not use any Block Transfer instructions addressed to the drive in its ladder logic program.

**Important:** DriveMonitor32 and DriveBlockEditor32 cannot be used with RIO Block Transfer Pass Thru communications systems.

**Important:** For RIO Block Transfer Pass Thru communications to work, the PLC to which the drive is connected must be in RUN mode. If the PLC is not in RUN mode, pass thru messages cannot be delivered to the connected drive product.

## Checking Your Hardware Installation

Before setting up RSLinx and running DriveTools32, you should check your hardware installation. You should:

- Have an Ethernet card running TCP/IP correctly installed.
- Check that all cable connections between the computer and drive are secure.

## Configuring RSLinx for Ethernet to RIO Block Transfer Pass Thru Communications

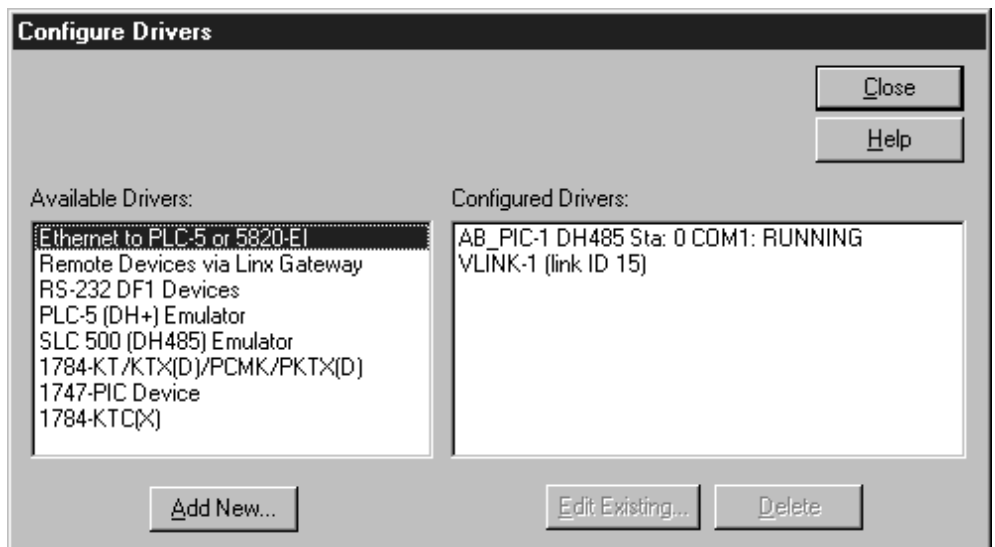
To use RSLinx for a serial communications system, you need to:

1. Configure the communication driver.
2. Test the configured driver.

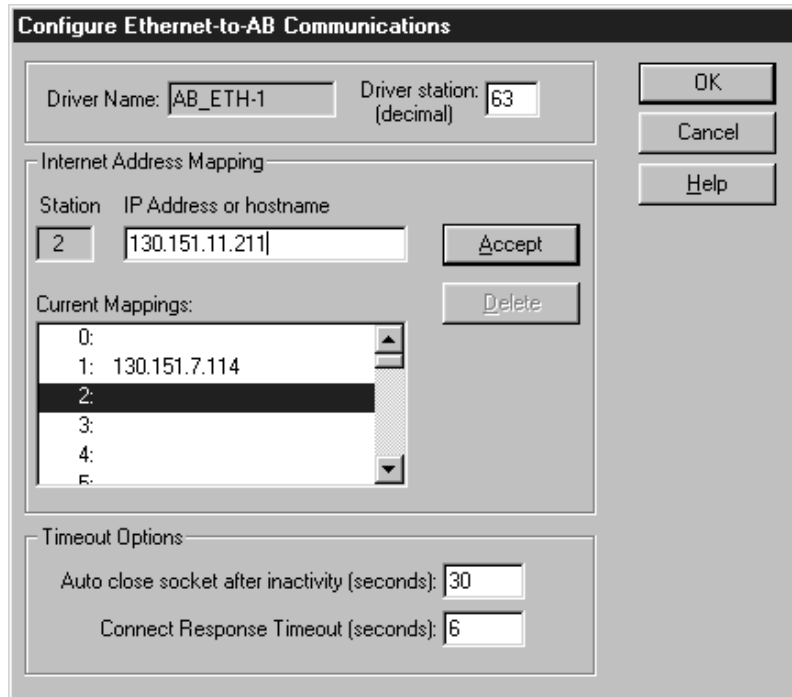
### Configuring the Communication Driver

To configure the communication driver, you need to:

1. Start the RSLinx application.
2. From the **Communications** menu, select **Configure Drivers**. The **Configure Drivers** dialog box appears.



3. Double-click **Ethernet to PLC5 or 5820-EL**. The **Configure Ethernet-to-AB Communications** dialog box appears.



4. In the **Driver Station** field, enter a unique station number for your PC on the Ethernet. Valid numbers are from 0 to 63.
5. In the **IP Address or hostname** field, enter the IP address.  
Remember the IP address. You will enter it again in the **Communications Setup** dialog box.
6. In **Current Mappings**, select an available Mapping.
7. Click **Accept**.
8. Click **OK**.

### Testing the Configured Driver

To test the configured driver, you need to:

1. Close the **Configure Drivers** dialog box.

- From the **Communications** menu, select **SuperWho**.

If you have only one configured driver, the communication between the node(s) on the network should be displayed.

If you have more than one configured driver, double-click on the driver you just configured to view the communication between the node(s) on the network.

- Close the **SuperWho** window when you are finished.

## Setting the Communication Information

You need to provide DriveTools32 with some information that it needs to establish a connection between your PC and your drive. To do this, you need to:

- Start DriverManager32.
- From the **Options** menu, select **Communication Setup**. The **Communication Setup** dialog box appears.

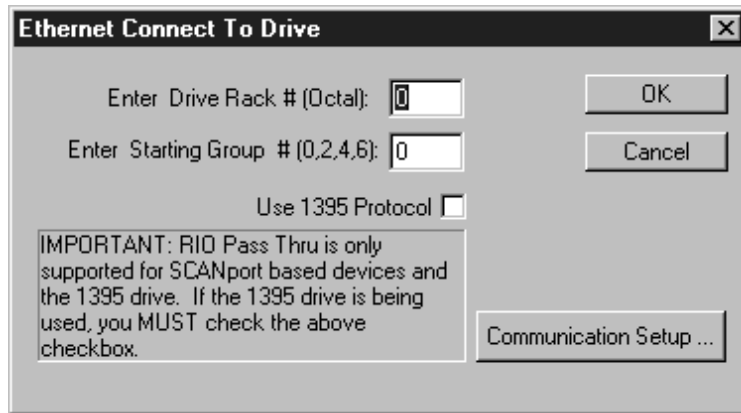
- In the **Communications** section, click **A-B Ethernet**.
- In the **Communications Type** section, click **Ethernet RIO Block Transfer Pass Thru**.
- In the **Enter IP Address** field, enter the same IP address entered in the **Ethernet-to-AB Communications** dialog box.

6. If applicable, select **1336T Two Word Header (Use ONLY for 1336T version 0.10)**.
7. Click **OK**. A window displaying information about RIO Block Transfer Pass Thru communications appears.
8. Read it and click **OK**.

## Connecting to the Drive

To connect to the drive, you need to:

1. From the **Drive** menu, select **Connect to Drive**. The **Ethernet Connect to Drive** dialog box appears.



2. In the **Enter Drive Rack #** field, enter the RIO rack number associated with this drive.  

The rack number is specified in octal and is set in the communication adapter for the drive.
3. In the **Enter Starting Group #** field, enter the RIO starting group number associated with this drive.  

The RIO starting group number is set in the communication adapter for the drive. Valid starting group numbers are 0, 2, 4, and 6.
4. If necessary, click **Use 1395 Protocol**.
5. Click **OK**.

After a short pause, either the DriveManager32 screen with the drive parameters appears, or you are prompted to create a database.

## Using RSLinx Gateways

### Chapter Objectives

This chapter provides information for configuring and using RSLinx gateways from a client computer. After finishing this chapter, you will be able to perform the following tasks:

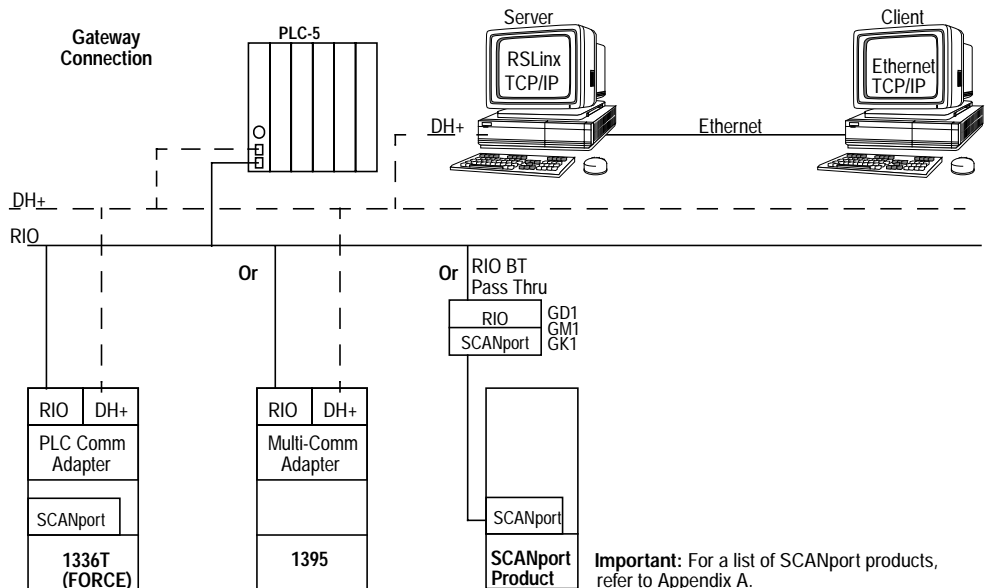
- Check your hardware installation.
- Configure RSLinx for RSLinx Gateway Communications.
- Enter information into the DriveTools32 application's **Communication Setup** dialog box.
- Begin communicating with your drive.

**Important:** Your server must already be set up.

### What is a Gateway?

A gateway provides messaging through a server connected to a PLC-5. The PLC-5 then acts as a gateway to drives on DH+, or the RIO network. The following is an example of this type of configuration:

**Figure 8.1**  
RSLinx Gateway to DH+ and to DH+ RIO Block Transfer Pass Thru Connection



## Checking Your Hardware Installation

Before setting up RSLinx and running DriveTools32, you should check your hardware installation. You should:

- Have an Ethernet card running TCP/IP correctly installed in your PC.
- Check that you are logged on to your local area network.

To start DriveTools32 applications, click **Start, Programs, DriveTools32** and then the DriveTools32 application (e.g., **DriveManager32**).

## Configuring RSLinx for RSLinx Gateways

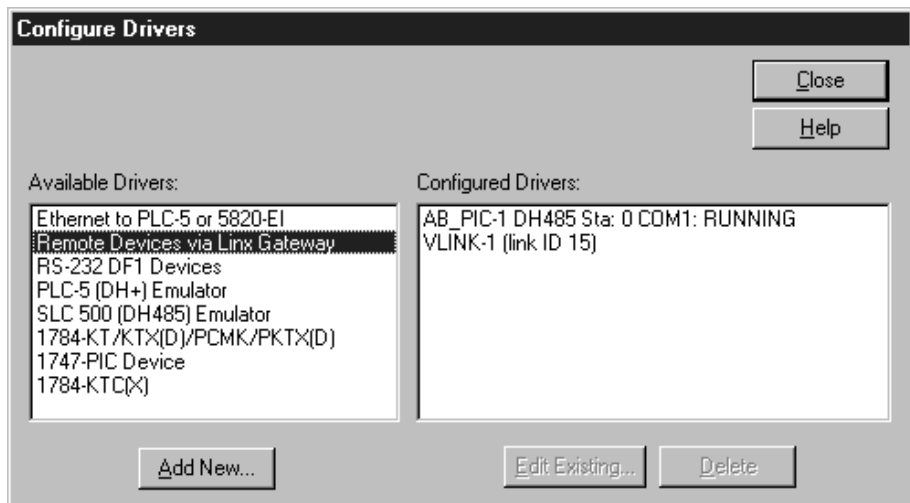
To use RSLinx for an RSLinx Gateway communications system, you need to:

1. Configure the communication driver.
2. Test the configured driver.
3. Map the configured driver(s) to the KTPort Value.

### Configuring the Communication Driver

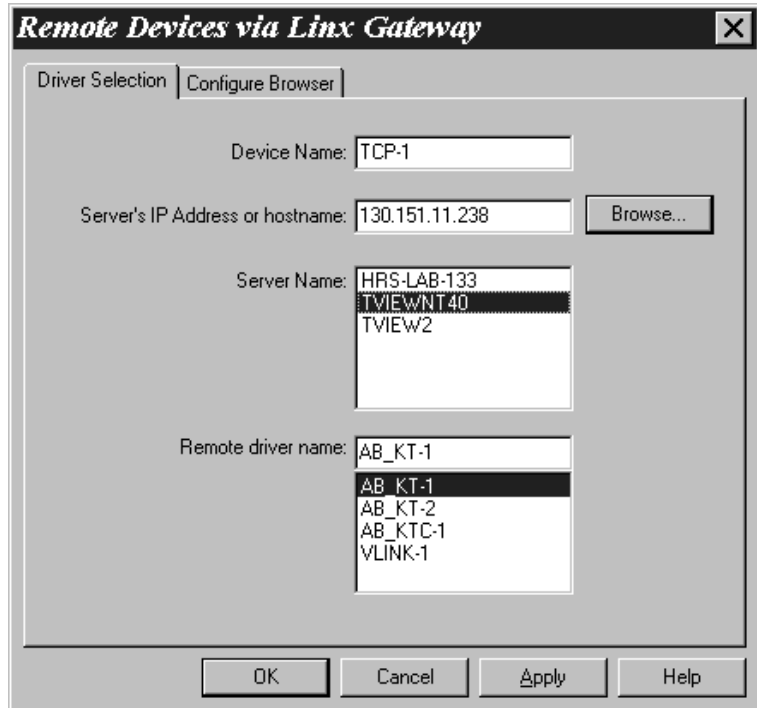
To configure the communication driver, you need to:

1. Start the RSLinx application.
2. From the **Communications** menu, select **Configure drivers**. The **Configure Drivers** dialog box appears.





3. Double-click **Remote Devices via Linx Gateway**. The **Remote Devices via Linx Gateway** dialog box appears.



4. From the **Server Name** list, select the server to which you want to connect. A list of Remote drive names appears.
5. From the **Remote driver name** list, select the DH+ driver to which you want to connect.
6. Click **OK**.

### Testing the Configured Driver

To test the configured driver, you need to:

1. Close the **Configure Drivers** dialog box.
2. From the **Communications** menu, select **SuperWho**.

If you have only one configured driver, the communication between the node(s) on the network should be displayed.

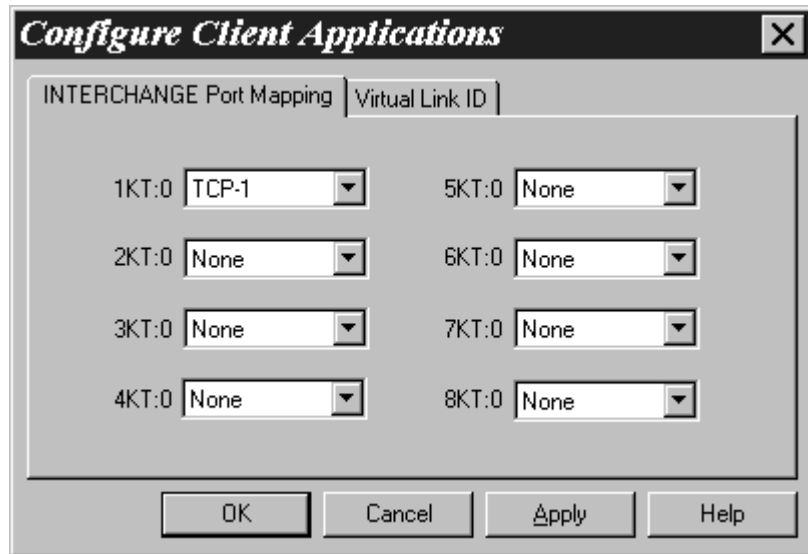
If you have more than one configured driver, double-click on the driver you just configured to view the communication between the node(s) on the network.

3. Close the **SuperWho** window when you are finished.

### Mapping the Configured Driver(s) to the KTPort Value

To map the configured driver(s) to the KTPort value, you need to:

1. From the **Communications** menu, select **Configure Client Applications**. The **Configure Client Applications** dialog box appears.



2. Choose an unused **KT:0** field to which to map your TCP driver.

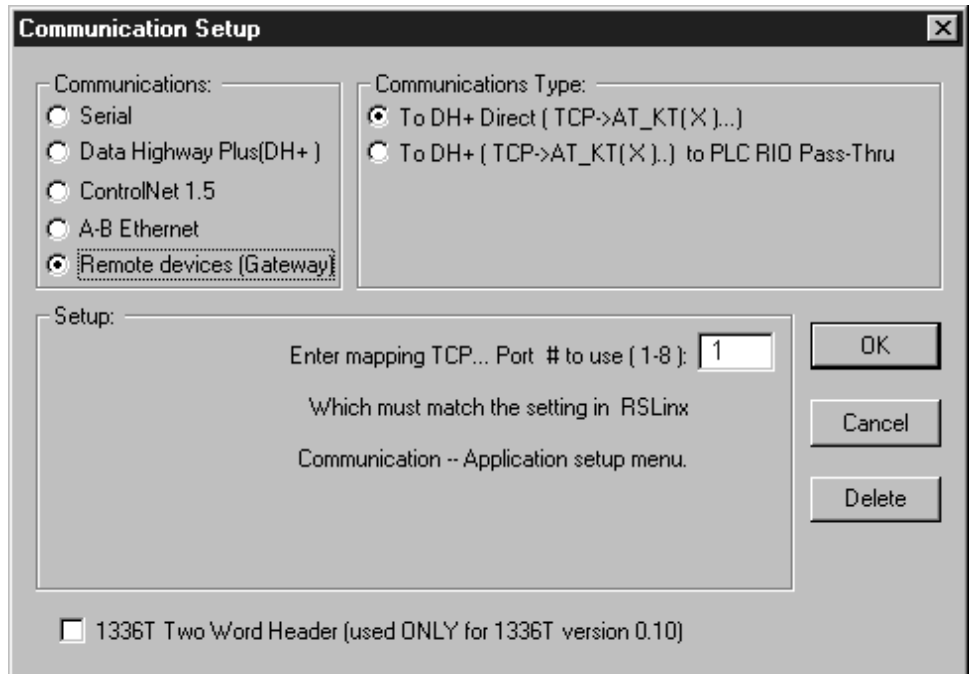
**Important:** When you use the **Communication Setup** option from within any of the DriveTools32 applications, you need to enter the RSLinx KT:0 number (i.e., 1 – 8) to which you just mapped the TCP device. Enter the number in the **Enter mapping TCP...Port # to use** field in the **Communication Setup** dialog box.

3. Use the drop box for the field to map the configured driver to the port.
4. Click **OK** or **Apply**.

## Setting the Communication Information

To provide DriveTools32 with information that it needs to establish a connection between your PC and your drive, you need to:

1. Start DriveManager32.
2. From the **Options** menu, select **Communication Setup**. The **Communication Setup** dialog box appears.



3. In the **Communications** section, select **Remote devices (Gateway)**.
4. In the **Communications Type** section, select the appropriate communications type.
5. In the **Enter mapping TCP Port # to use** field, enter the KT Port number.

**Important:** The Port number must match the RSLinx KT:0 Port number used for the TCP device in the **Configure Client Applications** dialog box.

6. If applicable, select **1336T Two Word Header (used ONLY for 1336T version 0.10)**.
7. Click **OK**. A window displaying information on RIO Pass Thru communications may appear.
8. Click **OK**.

## Connecting to the Drive

To connect to the drive, you need to:

1. From the **Drive** menu, select **Connect to Drive**. The **Gateway DH+ Network Connect to Drive** dialog box appears.



2. In the **Enter DH+ Station** field, enter the station number.

Valid station numbers are octal values between 0 and 77. If you are using a 1395 drive with a Multi-Comm board or a 1336 FORCE drive with a PLC Communications Adapter Board, the station number is set on the communications board.

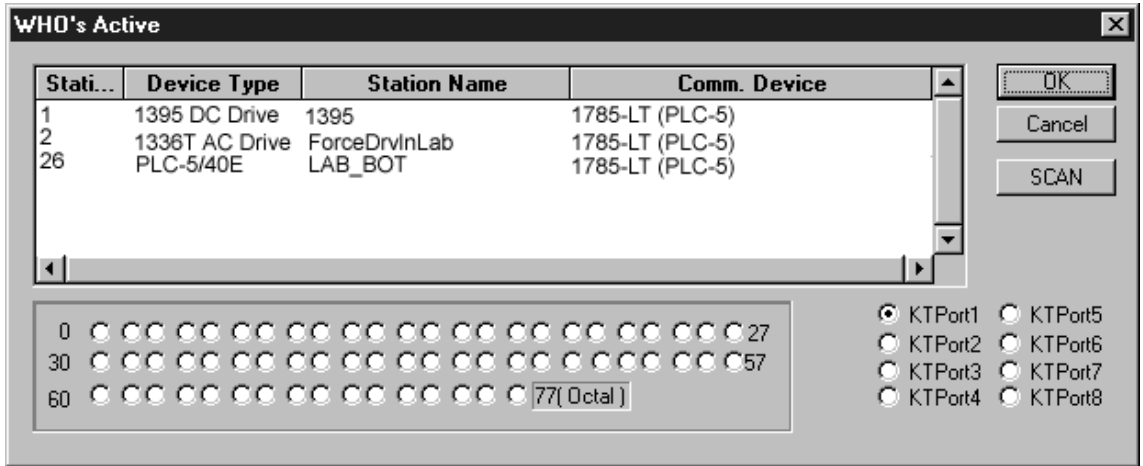
**Important:** You can use the **WHO** button to determine the station number. The **WHO** button is covered in further detail below.

3. Click **OK**.

After a short pause, either the DriveManager32 screen with the drive parameters appears, or you are prompted to create a database.

## Using the WHO Button

The **WHO** button is located on the **Gateway DH+ Network Connect to Drive** dialog box to help you determine the station number for your drive. When you click **WHO**, the **WHO's Active** dialog box scans the SCANport list and displays the devices that are currently active. The following is an example of a **WHO's Active** dialog box.



To select a device:

1. Highlight the device.
2. Click **OK**.

The station number of the device that you selected is used for the **Enter DH+ Station (0-77 Octal)** field on the **Gateway DH+ Connect to Drive** dialog box.

The main window displayed in the **WHO's Active** dialog box shows the information read from the network WHO command. The information consists of the following:

This field:	Specifies:
Station #	The network station number for each device on the network.
Device Type	The type of device that is associated with the network station number.
Station Name	The textual description contained in the device at the network station number. The Bulletin 1395 drive does not support a network station name. Therefore, the name shown on the network map is the same for all 1395 drives.
Comm. Device	The communication device type as it is identified on the network.

The **WHO's Active** dialog box provides the following buttons:

- **SCAN**

Click on the **SCAN** button to rescan the network to read station information.

- **KT Port x**

The **KT Port** radio buttons let you change the currently selected DH+ network KT card from within the **WHO's Active** dialog box. When you change the KT port definition, the dialog rescans the network based on the new setting.

## SCANport-Compatible Products Supported by DriveTools32

### Appendix Objectives

This appendix lists the bulletin numbers of SCANport-compatible products in DriveTools32, their product names, and their sub-directories.

### Supported SCANport-Compatible Database Files

The following table lists the most common SCANport products.

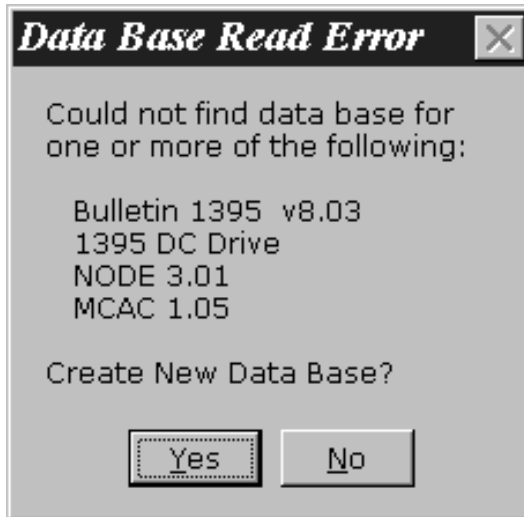
Bulletin Number	Product	Sub-Directory
1305 AC Micro Drive	1305 AC Micro Drive	D_1305N
1336E IMPACT Drive	1336 IMPACT Drive	D_1336E
1336S Plus AC Drive	1336 Plus AC Drive (Fractional)	D_1336F
1336S Plus AC Drive	1336 Plus AC Drive	D_1336HP
1336T w/ PLC Communications	1336 FORCE	D_1336TP
1336T w/ STD Adapter	1336 FORCE	D_1336TS
1336T w/ CNet Adapter	1336 FORCE	D_1336TC
1394 Servo AC Drive	1394 Servo AC Drive	D_1394
1397 DC Drive	1397 DC Drive	D_1397
1557 Medium Voltage AC Drive	1557 Medium Voltage AC Drive	D_1557
2364F RGU DC Bus Regen Front End	2364F RGU DC Bus Regen Front End	D_2364F
1336F Plus II	1336 Plus II	D_07
1336R Line Regeneration Package	1336 Line Regeneration Package	D_19
150 SMC	SMC Dialog Plus	D_150
193 SMP	SMP-3	D_193

**Important:** DriveTools32 supports more SCANport-compatible products than are listed in the above table. Refer to page A-2 for more information.

## DriveTools32 and Database Files

DriveTools32 uses a unique database file for each drive product so that you can configure each drive individually. DriveTools32 ships with many of the database files it will need (refer to the table above).

If you connect to a drive for which DriveTools32 does not have a database file, you will be prompted to upload a new database file.



Click **Yes** and DriveTools32 uploads a database which you can then configure. When the upload is complete, DriveTools32 prompts you.



Click **OK**.



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