



NOTE Some protocols on the Digi One IAP product family that are described in this document are being moved to legacy status because the protocols described are no longer actively supported. The products themselves continue to be active products.



Setting up Digi RealPort and RSLinx

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1 Introduction

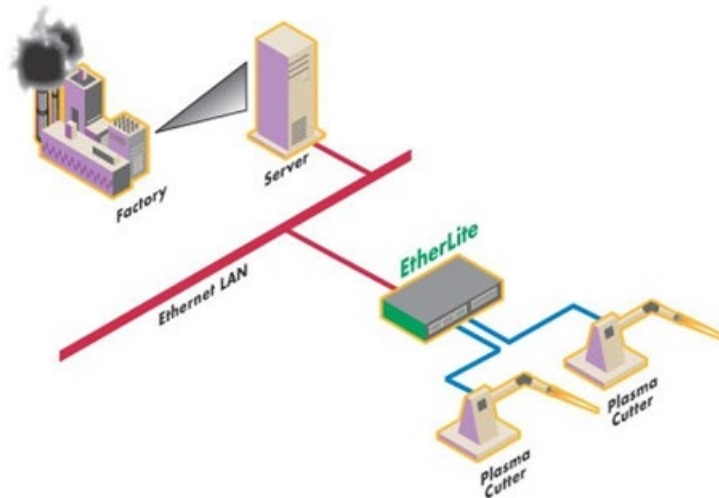
Abstract

This document describes how to set up Digi RealPort® to access a remote PLC as if locally connected. It can be used with Digi One SP, Digi One IA, Digi One IAP, and other Digi products. The example will show you how to set up RSLinx to access that PLC. Similarly RealPort can be used with Siemens S7 to S7-200 PLCs.

1.1 Applicable Digi products

You can use Digi RealPort with most of Digi's networking products such as the Digi One SP, Digi One IA, PortServer TS 4, PortServer TS 4H (extended temperature), and PortServer TS 8 and TS 16. No special protocol firmware is required.

You connect the Digi product as illustrated below. Although the serial device is remote, your application behaves as if the device is in the same location.



2 Installing RealPort software

Download RealPort from the **Drivers** section of the [RealPort support page](#). Select your operating system and then click the download link.

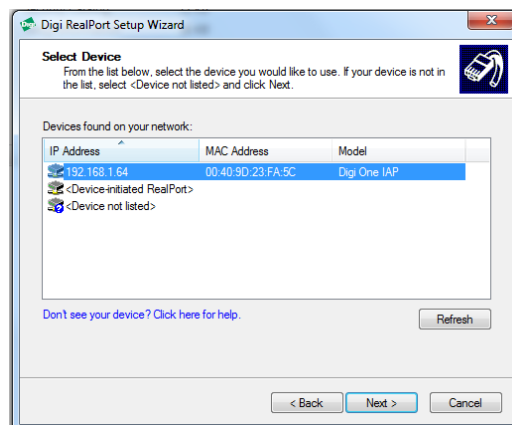
RealPort comes as a ZIP file, so you need WinZIP or another decompression application. Extract all the files into a temporary directory, read the **Readme.txt** file, and then run the **Setup32.exe**, or **Setup64.exe** file. This will launch the RealPort setup wizard.

Name	Date modified	Type	Size
40002549_G (1)	1/15/2016 9:41 AM	BitZipper ZIP Arch...	2,407 KB
readme	5/18/2015 2:36 PM	Text Document	22 KB
digirpt	1/19/2015 7:15 AM	BitZipper CAB Arc...	7 KB
mdmdgiam	1/19/2015 4:47 AM	Security Catalog	9 KB
digirpt	1/19/2015 4:45 AM	Security Catalog	12 KB
mdmdgiam	1/15/2015 10:03 AM	Setup Information	16 KB
digirpt64.sys	1/13/2015 10:19 PM	System file	220 KB
digirpt.sys	1/13/2015 10:06 PM	System file	184 KB
Setup	1/13/2015 10:03 PM	MS-DOS Applicati...	140 KB
Setup	1/13/2015 10:03 PM	Application	140 KB
DgRpHelp	1/13/2015 10:03 PM	Compiled HTML ...	68 KB
Setup64	1/13/2015 10:03 PM	Application	1,144 KB
dgrpui4564.dll	1/13/2015 10:02 PM	Application extens...	1,615 KB
digirp	1/13/2015 10:01 PM	Setup Information	6 KB
digirprt	1/13/2015 10:01 PM	Setup Information	5 KB
Setup32	1/13/2015 10:01 PM	Application	769 KB
dgrpencc	1/13/2015 10:01 PM	Application	997 KB
dgrpui45.dll	1/13/2015 10:01 PM	Application extens...	857 KB

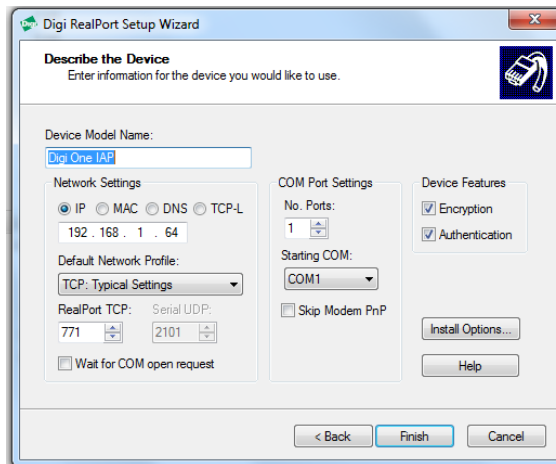
You can add a device, remove a device, or just update the driver. Remember to remove Digi devices that are no longer available, or your computer will continually attempt to reconnect to them.

When you add a device, you are given a list of discovered Digi products.

1. Click the **Refresh** button to rediscover newly connected devices.



The wizard's default option appears.

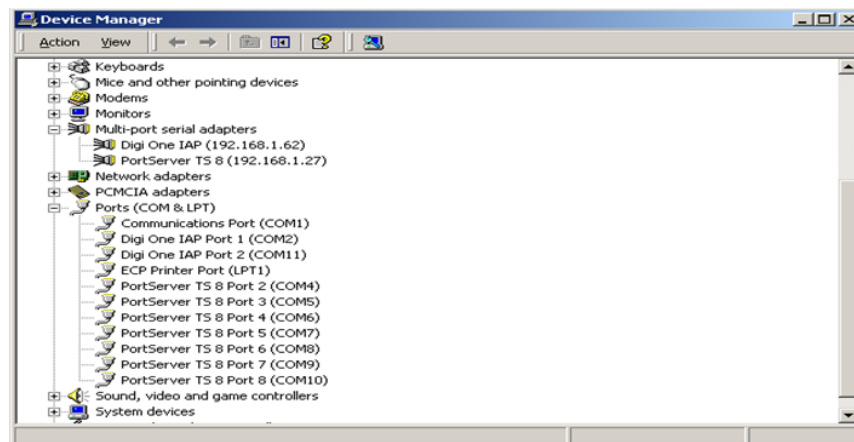


2. Click **Finish** to complete the wizard.

3 Maintaining the RealPort software

In Windows 2000, right-click **My Computer**. Click the **Properties** option. Click the **Hardware** tab and run **Device Manager**. Different versions of Windows may look different, but this is the view in Windows 2000. Notice that each Digi device shows up in two ways:

- Under the **Multi-port serial adapters** you can see each device with its IP address.
- Under **Ports (COM and LPT)** you see the ports linked to the Digi device(s).

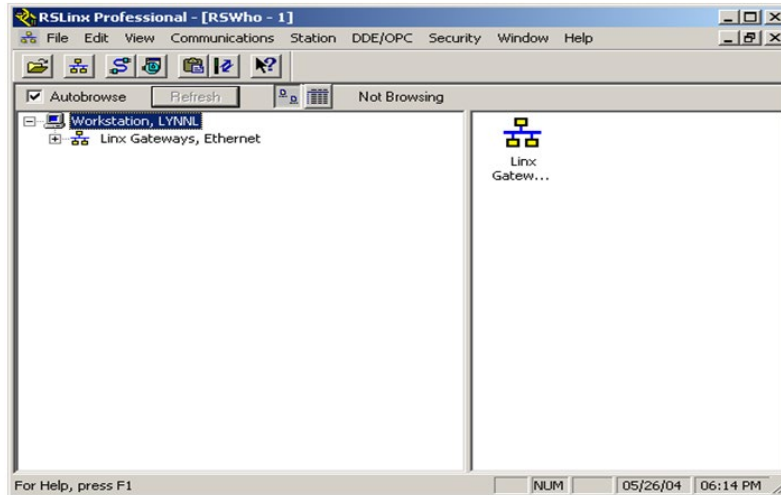


Select one of the Digi products and click **Properties** to change the IP address for this device, add a device name, change the COM port assignment, and change the default baud rate and other port settings. This document doesn't show all the dialog boxes you can see, but after you are here, you can manage the RealPort links. Remember to remove connections that are permanently undesired, and disable those that are temporarily unavailable. Some Digi products offer strong AES encryption by RealPort, which provides a way to retrofit security into your serial communication systems.

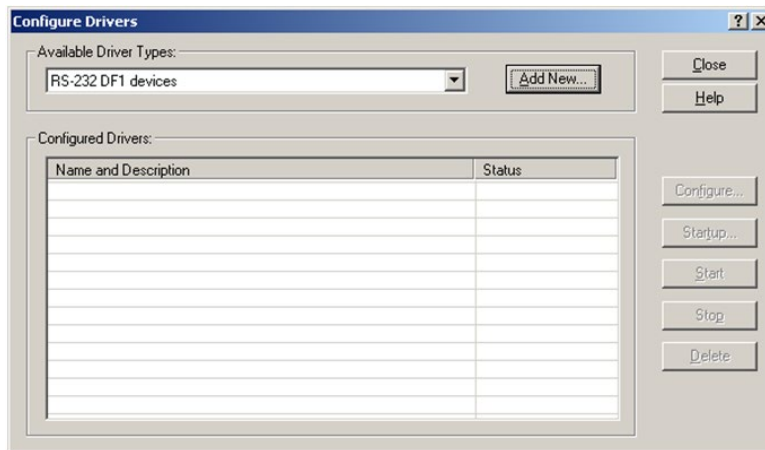
4 Using RealPort in RSLinx

To start RSLinx you'll first need to add the RS-232 DF1 driver.

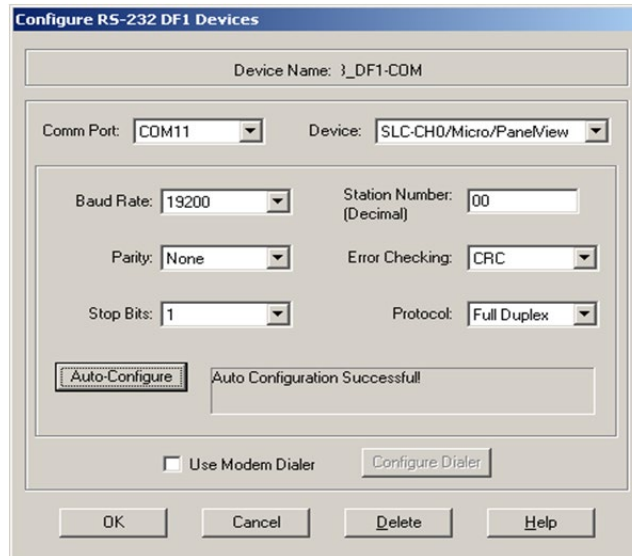
1. Select Communications > Configure Driver.



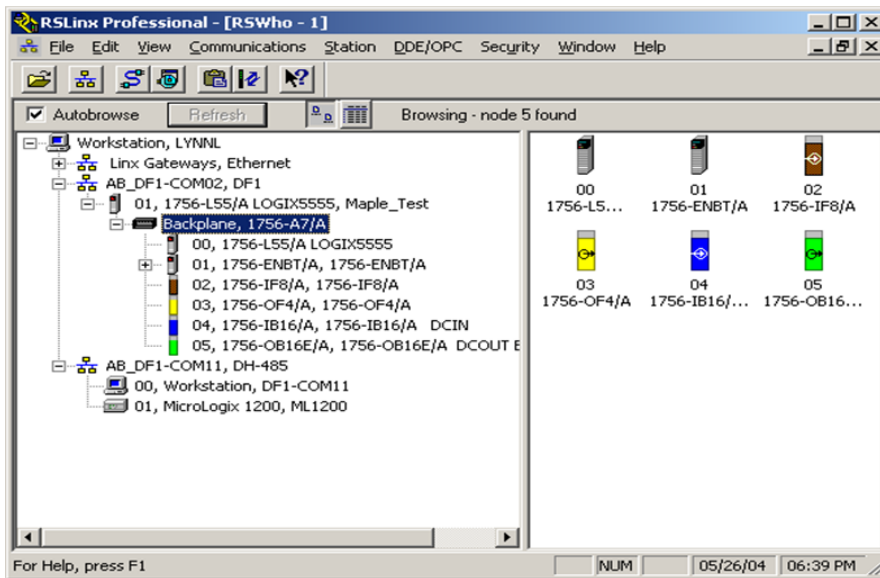
2. From the Available Device Types pull-down menu, select RS-232 DF1 devices.
3. Click Add New.



Here is an example that shows connecting COM11 to a MicroLogix PLC. The Auto-Configure works fine if your Ethernet is local. However, it may not work over a wide-area network due to time delays added by infrastructure.



In this example, both COM2 and COM11 are set up. Note that RealPort allows you to access the DF1 serial port of ControlLogix and CompactLogix processors remotely by Ethernet.

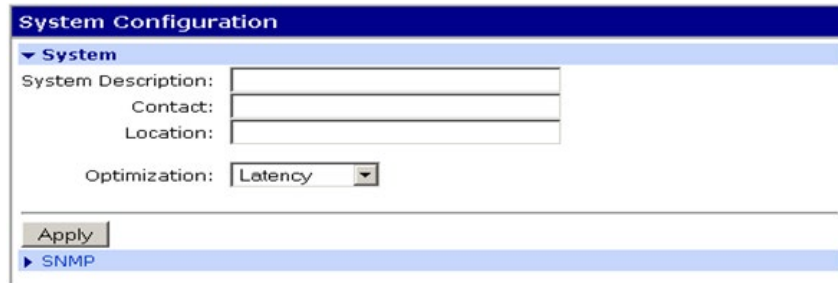


5 Special notes on products and RealPort

5.1 Setting low-latency mode

Most products do well with the default of low-latency optimization. This means RealPort forwards data as fast as possible, creating more network packets but with less chance of gaps between serial characters.

This is the default, so you likely do not need to set it. However, to set by Web UI, select **Configuration > System** and look for the **Optimization** pull-down menu.



The screenshot shows a web interface titled "System Configuration". Under the "System" section, there are input fields for "System Description:", "Contact:", and "Location:". Below these is a dropdown menu for "Optimization:" which is currently set to "Latency". At the bottom of the form, there is an "Apply" button and a link to "SNMP".

The opposite of the **latency** setting is called **throughput**, where RealPort collects more data to send as fewer network packets. Timing insensitive protocols like AB/DF1 can work in this mode if you want fewer, but larger, network packets.

5.2 Modbus

5.2.1 Can Digi devices work with serial ports on Modbus slaves?

Any Digi device with RealPort can work with serial Modbus. However, if you are using a non-Modbus-aware Digi product (anything without the Multi-Master IA support), set up the DS/TS for **low-latency** for Modbus/RTU. Modbus/ASCII works with either low-latency or throughput.

5.3 Rockwell

5.3.1 Can Digi devices work with the serial port of ControlLogix or CompactLogix?

Yes, but only if RealPort is used so RSLinx accesses the devices as the RS-232 DF1 driver. This is because they speak a special CIP encapsulation protocol using DF1 as transport. RSLinx generates this protocol only if it thinks it is talking to a real RS-232 DF1 device.

5.4 Siemens

5.4.1 Can Digi devices work with S7-2xx (PPI) serial ports?

RealPort can work with S7-2xx (PPI) serial ports. You can use either the Siemens RS-232/PPI cable or the RS-485 of the Digi DS/TS. Be aware that the S7 has 24 VDC on one of the pins of its 9-pin connector, and you can get unexpected results—or even a burned serial port—if you connect the S7 PLC to the Digi device with the incorrect cable.

You must set the DS/TS for low-latency.

5.4.2 Can Digi devices work with S7-3xx/4xx (MPI) ports?

Digi devices can work with S7-3xx/4xx (MPI) ports. You must use the Siemens RS-232/MPI cable. MPI is not RS-485, and you cannot communicate directly without the Siemens cable.

You must set the DS/TS for low-latency.