



Digi Connectware™

Digi Port Authority-Remote Set up Guide

Revision history—92000308

Revision	Date	Description
A	January 2002	Initial release.
B	December 2019	Rebranded. Updated and edited for unique password change.

Trademarks and copyright

Digi, Digi International, and the Digi logo are trademarks or registered trademarks in the United States and other countries worldwide. All other trademarks mentioned in this document are the property of their respective owners.

© 2019 Digi International Inc. All rights reserved.

Disclaimers

Information in this document is subject to change without notice and does not represent a commitment on the part of Digi International. Digi provides this document “as is,” without warranty of any kind, expressed or implied, including, but not limited to, the implied warranties of fitness or merchantability for a particular purpose. Digi may make improvements and/or changes in this manual or in the product(s) and/or the program(s) described in this manual at any time.

Warranty

To view product warranty information, go to the following website:

www.digi.com/howtobuy/terms

Send comments

Documentation feedback: To provide feedback on this document, send your comments to techcomm@digi.com.

Customer support

Digi Technical Support: Digi offers multiple technical support plans and service packages to help our customers get the most out of their Digi product. For information on Technical Support plans and pricing, contact us at +1 952.912.3444 or visit us at www.digi.com/support.

Contents

Introduction to Digi Port Authority-Remote

Discovery	5
Network Interface Monitoring	5
Port Monitoring	5
PortServer Products Supported	6
Hardware requirements	6

Get started

Download DPA-Remote	7
Install Digi Port Authority-Remote	7
Install on Linux (RPM method)	8
Install on Linux (from source)	8
Start DPA-Remote	9
Linux	9

Configure a device in DPA-Remote

Monitor network interfaces

Configure DPA-Remote

Configure the Device Monitor	13
Configure the ADDP discovery process	13
Configure DNS names display (ADDP)	13
Configure auto-discover devices on start up (ADDP)	13
Configure the SNMP discovery process	13
Configure the SNMP throttle value	13
Configure the SNMP discovery IP address range	14

Uninstall Digi Port Authority-Remote

Uninstall from Linux (RPM method)	15
Uninstall from Linux (from source)	15

DPA-Remote reference

DPA-Remote main window (Control Panel)	17
Control Panel	17
File > Options menu options	18
Monitor window	18
Port Monitor fields and graphs	19
Port Monitor fields	19
Signal Monitor	19
Characters In/Octets Out Monitor	20
Network Interface Monitor fields and graphs	20
Interface Information fields	20
Input Counter fields	21
Output Counter fields	21
Octets In/Octets Out Monitor	22

Troubleshooting

DPA-Remote connection errors	23
------------------------------------	----

Introduction to Digi Port Authority-Remote

DPA - Remote (Digi Port Authority - Remote) is a program used to discover and monitor data and errors on Digi devices with either Digi's proprietary program called ADDP (A Digi Discovery Protocol) or SNMP agents over TCP/IP. A network interface to a device might be an Ethernet or PPP connection.

Discovery

Discovery is a program that discovers Digi devices residing on a network. The Digi devices are discovered with either ADDP (A Digi Discovery Protocol) or SNMP.

ADDP

For a Digi device to be discovered by ADDP, it must be ADDP-enabled. ADDP runs on any operating system capable of sending multicast IP packets on a network. It allows the system to identify all ADDP enabled Digi devices attached to a network by sending out a multicast packet. The Digi devices respond to the multicast packet and identify themselves to the client sending the multicast. The ADDP protocol needs to communicate with the TCP/IP stack using the UDP protocol. The TCP/IP stack should be able to receive multicast packets and transmit datagrams on a network. Not all Digi devices support ADDP.

SNMP

For a Digi device to be discovered by SNMP, it must have SNMP enabled. An SNMP agent must be running on your supported Digi device before you can use DPA - Remote to monitor it. To start the SNMP agent, see the appropriate documentation for your particular Digi device.

Network Interface Monitoring

Monitoring a network interface can be helpful in troubleshooting network performance issues or keeping track of the network interface performance. DPA-Remote can monitor incoming and outgoing data and errors on a network interface. See [Monitor network interfaces](#).

Port Monitoring

Monitoring ports can be helpful in troubleshooting port problems. DPA-Remote can monitor incoming and outgoing data and errors on ports. Also, individual signals (such as DTR, DCD, OFC, IFC, etc.) can be monitored. By viewing port signals, a user may be able to determine if a port appears to be functioning correctly or if it appears to be in some state of flow control or other condition of concern. See [Port Monitor fields and graphs](#).

PortServer Products Supported

DPA-Remote supports Digi One RealPort, PortServer II, and PortServer TS products. Where this documentation uses the name PortServer, this implies any of these supported PortServer products. The original Digi PortServer is not supported.

Note Depending on your PortServer model and firmware revision, the information displayed by DPA-Remote may differ.

Hardware requirements

Using the Keyboard Instead of a Mouse

The DPA - Remote utility includes keyboard support for users with no access to a mouse or a preference for a keyboard. However, not all operating systems support these functions.

The TAB, SHIFT-TAB and arrow keys can be used to navigate the interface. Also available for use are the "ALT" keystroke combinations. For example, ALT-F will bring up the File menu and ALT-O brings up the Options menu from the main monitoring window.

Get started

Follow these steps to download and install DPA-Remote, launch the application, and configure and monitor a device.

1. [Download DPA-Remote](#).
2. [Install Digi Port Authority-Remote](#).
3. [Start DPA-Remote](#).
4. [Configure a device in DPA-Remote](#).

After you have discovered devices from DPA-Remote, you can monitor network interfaces and ports, and display information about your device in the **Device Monitor**.

- [Monitor network interfaces](#)

You can also configure the DPA-Remote application.

- [Configure DPA-Remote](#)

Download DPA-Remote

1. Go to the product support page for your device.
2. Choose **Diagnostics, Utilities and MIBs**.
3. From the **Operating System Specific Utilities** list box, select your operating system.
4. Download the appropriate version of the utility and save it to the desired directory.

Install Digi Port Authority-Remote

You can install DPA-Remote on your device using any of these methods.

Prerequisites

- On UNIX installations, an X-Window environment must be installed in order to run DPA-Remote.
- On all installations, a web browser is required in order to display the help.
- You must have [downloaded the DPA-Remote](#) software.
- Linux users must create symbolic links before DPA-Remote will install properly. This step is included in the Linux install processes.

From the list below, select the appropriate OS:

- [Install on Linux \(RPM method\)](#)
- [Install on Linux \(from source\)](#)

Install on Linux (RPM method)

1. Place the downloaded distribution file in a directory, such as `/usr/src`.
2. Verify that the directory exists:

```
/usr/src/linux
```

If it does not exist, create a symbolic link by entering the following command:

```
ln -s /usr/src/linux-(version number) /usr/src/linux
```

Where `version number` is the number of the Linux kernel.

3. All Linux versions except RedHat must create the following symbolic link for the RPM to install properly. Enter the following command:

```
ln -s /usr/src/(RPM source directory) /usr/src/redhat
```

Where the `RPM source directory` is the specific name used by your Linux distribution.

4. Enter the following commands:

```
rpm -ivv 40002188_version.src.rpm  
cd /usr/src/redhat/SPECS  
rpm -bb digidpar-version.spec  
cd /usr/src/redhat/RPMS/<arch>  
rpm -ivv digidpar-version.<arch>.rpm
```

Install on Linux (from source)

Note You should not remove the source tree, since the `makefiles` are necessary for the uninstall procedure.

1. Place the downloaded distribution file in a directory, such as `/usr/src`.
2. Verify that the directory exists:

```
/usr/src/linux
```

If it does not exist, create a symbolic link by entering the following command:

```
ln -s /usr/src/linux-(version number) /usr/src/linux
```

Where `version number` is the number of the Linux kernel.

3. All Linux versions except RedHat must create the following symbolic link for the RPM to install properly. Enter the following command:

```
ln -s /usr/src/(RPM source directory) /usr/src/redhat
```

Where the `RPM source directory` is the specific name used by your Linux distribution.

4. Enter the following commands:

```
cd /usr/src
tar -xvzf 40002188_version.tgz
cd digidpar-version/sme
make install
make link
```

Start DPA-Remote

Linux

1. Enter the following command: `dparemote`
2. The [main window](#) appears.

Configure a device in DPA-Remote

Within DPA-Remote, you can access your devices that have been discovered by DPA-Remote.

Note Each time you access a device from DPA-Remote to configure the device, a log in screen for that device appears and you are required to log in to the device.

1. [Start DPA-Remote](#).
2. In the **Device Configuration** area, enter the DNS name or the IP address of the device. You can also choose a device from the **Discovered Devices** or [Most Recent](#) lists.
3. Choose **Configure**. A log in dialog displays.
4. Enter the user name and password.
 - **User name: root**
 - **Password:** Enter the default password printed on the device label. If a password is not on the label, the default password is **dbps**. If neither password works, the password may have been changed. Contact your system administrator.
5. The device's web interface opens, from which you can configure your device. Refer to the configuration manual for your device for information about the configuration fields.

Monitor network interfaces

In the Device Monitor, you can monitor network interfaces and ports, and display information about the devices that you have discovered using DPA-Remote.

1. [Start DPA-Remote](#).
2. In the **Device Monitor** area, enter the DNS name or the IP address of the Digi device. You can also monitor a device by choosing a device from the **Discovered Devices** or **Most Recent** lists.
3. From the **Community** list box, choose the appropriate device community. Options are:
 - **Public:** The device's default community for read-only access. If this has been changed in the device configuration, choosing this option will not have the desired effect, and you must instead choose the **<user-defined>** option and enter the appropriate community name.
 - **Private:** The device's default community for read/write access. If this has been changed in the PortServer, choosing this option will not have the desired effect, and you must instead choose the **<user-defined>** option and enter the appropriate community name.
 - **<user defined>:** Custom read or write access as defined on the device. This requires that the SNMP community entered has been previously defined on the device being monitored.
4. Choose **Monitor**. The main **Device Monitor** window appears. If an [error occurs](#) when DPA-Remote is attempting to connect to the device, a message appears.
5. Choose the **Display Information** tab to view information about the Digi device.
6. Choose the **Network Interface and Ports** tab to view the network interface and ports. Multiple interfaces and ports may be selected at the same time. See [DPA-Remote main window \(Control Panel\)](#).

A new monitor frame appears for each network interface or port you select. To close a monitor frame, click the network interface or port button associated with that frame.
7. Monitor the [network interfaces](#) or [ports](#).
8. If your device supports Modbus, you can choose **Modbus Information** to view information about the Digi Modbus device. This tab is not available on systems that do not support Modbus.

Configure DPA-Remote

The topics in this section explain how to configure DPA-Remote.

Configure the Device Monitor	13
Configure the ADDP discovery process	13
Configure the SNMP discovery process	13

Configure the Device Monitor

Fonts, timers, and graph scaling can be modified for the Device Monitor.

1. [Start DPA-Remote](#). The [main window](#) displays.
2. Choose **File > Options > Device Monitor**.
3. Change the fonts, timers, and graph scaling as desired.
4. Save the changes.

Configure the ADDP discovery process

Configure DNS names display (ADDP)

Note This process is for ADDP only.

1. [Start DPA-Remote](#).
2. In the main window, select **File > Options**.
3. Select the **General Options** tab.
4. Manage the **Enable name resolver** option.
 - **Select:** The DNS names display, but this may slow the discovery process on Microsoft Windows systems.
 - **Deselect:** Do not display DNS names. This improves system performance.
5. Save the changes.

Configure auto-discover devices on start up (ADDP)

Note This process is for ADDP only.

1. [Start DPA-Remote](#).
2. Select the **Discovery Options** tab.
3. Select **Auto Discover**.
4. Select **Pre-select ADDP discovery**.
5. Save the changes.

Configure the SNMP discovery process

Configure the SNMP throttle value

Note This process is for SNMP only.

1. [Start DPA-Remote](#).
2. In the main window, select **File > Options**.

3. Modify the detection of the local subnet.
 - a. Select the **Discovery Options** tab.
 - b. Set the **SNMP Throttle**. The SNMP Throttle controls the number of SNMP requests made per second on the network. Setting the SNMP Throttle too high may overwhelm the network and seriously hinder network performance.
4. Save the changes.

Configure the SNMP discovery IP address range

Modify which IP addresses or range of IP addresses on which an SNMP discovery search should be made.

Note This process is for SNMP only.

1. [Start DPA-Remote](#).
2. In the main window, select **Discovery Protocol**.
3. Select **SNMP**.
4. Select **Criteria**.
5. Save the changes.

Uninstall Digi Port Authority-Remote

You can uninstall DPA-Remote from your device.

- [Uninstall from Linux \(RPM method\)](#)
- [Uninstall from Linux \(from source\)](#)
-

Uninstall from Linux (RPM method)

1. Enter the following command:

```
rpm -e digidpar
```

Uninstall from Linux (from source)

1. Enter the following commands:

```
cd /usr/src/digidpar-version/sme  
make unlink  
make uninstall
```

DPA-Remote reference

- DPA-Remote main window (Control Panel)17
- Monitor window18
- Port Monitor fields and graphs19
- Network Interface Monitor fields and graphs20

DPA-Remote main window (Control Panel)

When you start DPA-Remote, the main window displays.

Control Panel

Item	Function
Device Monitor	Choose Device Monitor to monitor interfaces and ports on Digi devices.
Device Configuration	Choose Device Configuration to launch a browser and configure your Digi device with the Web interface, provided this feature is supported on your device.
Most Recent	The Most Recent field contains a list of the IP addresses or DNS name of the most recent devices monitored or configured with DPA-Remote. You can change the length of the list. 1. In the main window, select File > Options. 2. Choose the General Options tab. 3. Use the buttons to increase or decrease the number of devices listed.
Discovered Devices	Display all the devices discovered by either the ADDP or the SNMP protocol. You can modify the discovery process for both ADDP and the SNMP protocols. See Configure the ADDP discovery process.
Discovery Protocol	Choose either ADDP or SNMP to discover devices attached to your network. ADDP: ADDP allows the system to identify all the Digi devices attached to a network by sending out a multicast packet. If a Digi device has ADDP it will respond to the multicast packet and identify itself to the application sending the multicast. SNMP: An SNMP agent must be running on your supported PortServer device before you can use DPA-Remote to discover it. SNMP Discovery sends an SNMP request to each node, but throttles the speed at which the packets are sent out to prevent your network from being flooded with requests. When the SNMP protocol is selected, the Criteria button becomes available and allows modifications to the SNMP discovery search.
Discover	Launch another search for devices using either ADDP or SNMP protocols.
Save	Save a list of discovered devices.
Criteria	The Criteria button appears when the SNMP option is selected. Click Criteria to modify SNMP Discovery requests.
Clear Item	Clear a single highlighted device from the Discovery Devices list.
Clear All	Clear all devices from the Discovery Devices list.

File > Options menu options

Item	Function
Global	Allows the user to change location of program data, modify Most Recent list, and enable/disable Domain Name Resolver.
Discovery	Modify the Discovery options such as SNMP Throttle.
Device Monitor	Modifies font sizes, timers, and graph scales displayed by the Device Monitor.

Monitor window

To access this screen, choose **Monitor** from the **Device Monitor** field on the **Control Panel**.

To close this screen, use the ESC key.

Field	Description
Device Name	The name of the device, if defined.
Node	The node name or IP address of the device.
Device Description	Describes the device. The description may include the firmware version of the device.
Variable Power Fields	Two power sources are available, either Powered Ethernet or an external power supply. The options are engaged or disabled.
Processor Utilization (PortServer TS 8/16 only)	The Processor Utilization graph shows the current CPU utilization as a percentage. ■ 100% indicates completely busy. ■ 0% indicates completely idle. The graph is updated from the right, at the interval defined in Options > Poll Interval.
Memory Utilization (PortServer TS 8/16 only)	The Memory Utilization graph shows the current CPU utilization as a percentage. 100% indicates all available memory is being used. The graph is updated from the right, at the interval defined in Options > Poll Interval.

Port Monitor fields and graphs

Port Monitor fields

Field	Description
Type	The type of port selected.
Speed	The speed of the port in bits per second.
Input Flow Control	The input flow control of the port. Examples: none, xonXoff or ctsRts
Output Flow Control	The output flow control of the port. Examples: none, xonXoff or ctsRts
Character Bits	The number of bits in a character. Examples: 8 or 7
Stop Bits	The number of stop bits. Examples: one, two or oneAndHalf
Parity	The type of parity. Examples: none, odd or even
Parity Errors	The total number of characters with a parity error, input from the port since system re-initialization and while the port state was 'up' or 'test'. This field will show a red background if an error has occurred in the last poll interval.
Overrun Errors	The total number of characters with an overrun error, input from the port since system re-initialization and while the port state was 'up' or 'test'. This field will show a red background if an error has occurred in the last poll interval.
Framing Errors	The total number of characters with a framing error, input from the port since system re-initialization and while the port state was 'up' or 'test'. This field will show a red background if an error has occurred in the last poll interval.
MEI Settings	Displays the devices MEI settings, usually on port 1 only.
Total Characters In	The total number of characters received by the port.
Total Characters Out	The total number of characters transmitted by the port.

Signal Monitor

This section of the port monitor window shows the status of various EIA-232 signals on the selected port. Active (on) signals are shown in green and inactive (off) signals in black.

EIA-232 Signal Descriptions

Signal	Description
RTS	Request to send
CTS	Clear to send
DSR	Data Set Ready
DCD	Data Carrier Detect
DTR	Data Terminal Ready
RI	Ring Indicator
OFC	Output is Flow Controlled
IFC	Input is Flow Controlled

Characters In/Octets Out Monitor

The Character In/Character Out graphs show the number of characters received (Characters In) and transmitted (Characters Out) by the port. The graphs update from right-to-left and represent the percentage of line speed over the last 20 poll intervals. The poll interval determines how frequently the port is polled for information. Poll intervals apply to all data, not just graphs.

Network Interface Monitor fields and graphs**Interface Information fields**

Field	Description
Description	A text string containing information about the interface. This string usually includes the name of the manufacturer, the product name and the version of the hardware interface.
Physical Address	The address of the interface at the protocol layer immediately below the network layer in the protocol stack. For interfaces that do not have such an address, such as a serial line, this object should contain an octet string of zero length.
Speed	The speed of the network interface in bits per second. For interfaces that do not vary in bandwidth or for those where no accurate estimation can be made, this object should contain the nominal bandwidth. A PPP connection will report a speed of zero until the connection is up.

Field	Description
MTU	The size of the largest datagram which can be sent/received on the interface, specified in octets. For interfaces that are used for transmitting network datagrams, this is the size of the largest network datagram that can be sent on the interface.

Input Counter fields

Field	Description
Unicast Packets	The number of input unicast packets received. Unicast is the method by which a packet is sent to a single destination.
Non-Unicast Packets	The number of non-unicast (subnetwork-broadcast or subnetwork-multicast) packets received.
Total Octets in	The total number of octets received on the interface, including framing characters.
Discarded Packets	The number of inbound packets which were discarded. One possible reason for discarding packets is to free up buffer space. This field will show a red background if an error has occurred in the last poll interval.
Packet Errors	The number of received packets containing errors. This field will show a red background if an error has occurred in the last poll interval.
Unknown Protocols	The number of packets received via the interface which were discarded because of an unknown or unsupported protocol.

Output Counter fields

Field	Description
Unicast Packets	The number of output unicast packets sent. Unicast is the method by which a packet is sent to a single destination.
Non-Unicast Packets	The number of non-unicast (subnetwork-broadcast or subnetwork-multicast) packets sent.
Total Octets Out	The total number of octets sent on the interface, including framing characters.

Field	Description
Discarded Packets	The number of outbound packets which were discarded. One possible reason for discarding packets is to free up buffer space. This field will show a red background if an error has occurred in the last poll interval.
Packet Errors	The number of sent packets containing errors. This field will show a red background if an error has occurred in the last poll interval.

Octets In/Octets Out Monitor

The Octets In/Octets Out graphs show the number of octets received (Octets In) and transmitted (Octets Out) by the interface. The graphs update from right-to-left and represent the percentage of line speed over the last 20 poll intervals.

The scale of the graphs can be changed by choosing **Options > Graph Scale > Network** from the **Monitor Window** menu.

The poll interval of the graphs can be changed by choosing **Options > Poll Interval** from the **Monitor Window** menu. The valid range is from 1-60 seconds. The poll interval determines how frequently the interface is polled for information.

Troubleshooting

DPA-Remote connection errors

During the course of connecting to or monitoring a device, error windows may appear if DPA-Remote cannot properly communicate with the device. These errors may point to a problem with the device or the network connection between the device and DPA-Remote. The device may simply be powered off or disconnected from the network.

If you get a connection error, verify these things.

- The IP address you specified is correct for the device.
- The IP address for the device is unique on your network.
- The device is powered on and properly connected to your network.
- You can ping or telnet to the device.
- The SNMP daemon is running on your device.
- The value in the community field you use (when selecting a device to monitor) matches the actual read or write community value defined on the device.

If DPA-Remote cannot discover your device, it can be due to one of following reasons:

- The Digi device may have old firmware.
- ADDP or SNMP may not be supported on the device.
- There may be a network problem.