

How to Configure the Digi-One SP

This Setup is for use with the WaveWare SPS-5 v9E and a Serial Port Host

This Document is to Help Guide you thru the Configuration Process of Connecting the SPS-5 v9E to a Nurse Call using the Digi-One SP Device Directly.

Important Note: This will NOT be using the LAN for the Connection, this is for a Direct Connection Only!

Connection “Type” Information:

This Configuration will be for a “**Direct Connection**” between the Host and the SPS-5 v9E with Only the Digi-One between the two Devices.

Even though this Particular Configuration will NOT work using the Customers LAN for Connecting the SPS-5 v9E to the Host System, the Easiest Method of Configuring the Digi-One is by using the Customer’s LAN to Connect to the Digi-One Device. This LAN Connection will Only be Temporary.

To Start:

First, we will need to Configure the SPS-5 v9E with the “**IP Address**” and the “**IP Port Number**” to be used for this Connection. This Information will be Required in Order to Properly Configure the Digi-One.

Step 1:

Configuring the SPS-5 v9E:

You may Configure the v9E by using the Encodersetupv9 Software thru the Serial Port or by using a Browser thru the Ethernet Port. To use the Ethernet Port / Browser Connection, you will need to use the Discover Tool which is also included in the Encoder Setup Software to Find the IP Address Assigned * to the SPS-5 v9E.

* The SPS-5 v9E is Shipped with DHCP Enabled, so attaching it to the LAN, it will Automatically get a IP Address.

Or just use the Encoder Setup Software Included on the Support CD, (which is Sent with Each v9E Transmitter). The Software File Name is: **encodersetupv9.exe** (Or, you may Download it from the WaveWare Website)

To use the Serial Com Port for Programming the SPS-5 v9E:

Install the Encoder Setup Software and Open the Com Port that Corresponds to the Port Number of which the v9E is attached to. Example: **Com 3**

Click the “**Com 3**” Button on the Main Screen to have the Software Find the v9E Encoder. (See **Fig. 1**) The System will Respond Stating that “The Encoder has been Found, the Database will now be Read”...**Click OK**.

Note: Takes about 15 Seconds to Read the Encoder’s Database and Configuration.

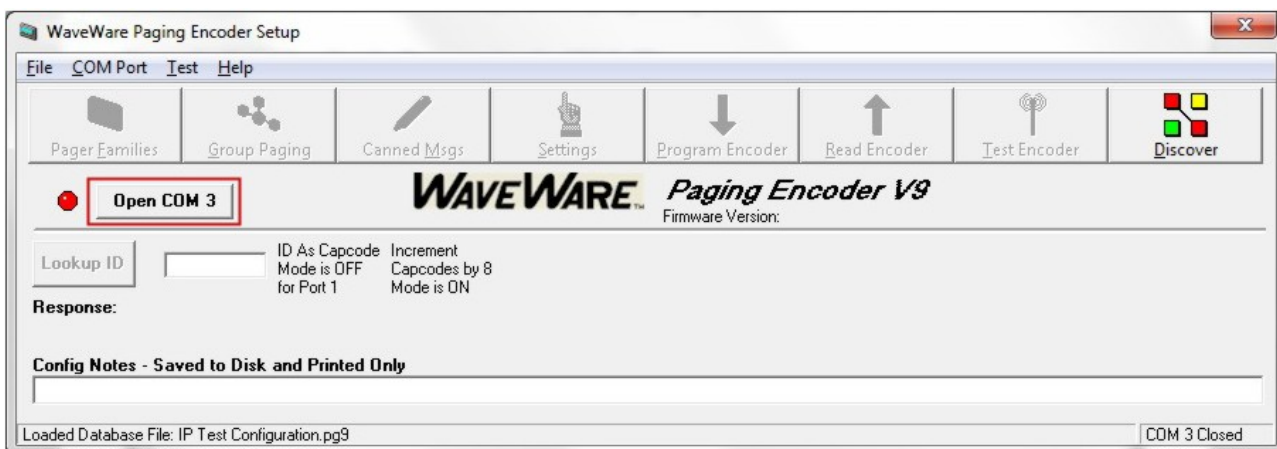


Fig. 1 Main Screen – Click the “Open Com 3” Button to Connect to the Encoder

To use the **Serial Com Port** for Programming the SPS-5 v9E: (Continues Next Page...)

To use the **Serial Com Port** for Programming the SPS-5 v9E:

After **“Reading”** the Encoders Database, Go to the **“Settings”** Screen and then Click on the **“Ethernet Settings”** Button on the Right Side of the Screen. (See **Fig. 2** and **3**)

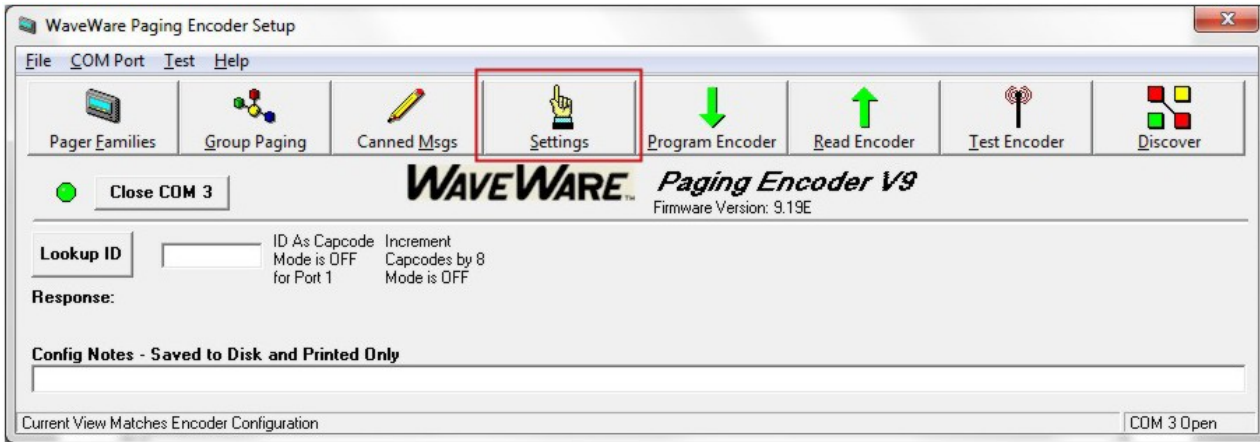


Fig. 2 Main Screen – Choose the **“Settings”** Icon to Configure the Ports – See Fig. 3 and Fig. 4

Configure the v9E’s **“1st Connection”** for use with the Digi-One. (See **Fig. 4**)

Note: The v9E offers 2 Connections, using the One IP Address, so be sure to Note the Connection you wish to use so that Configuration including the **“IP Port Number”** Matches the Host System.

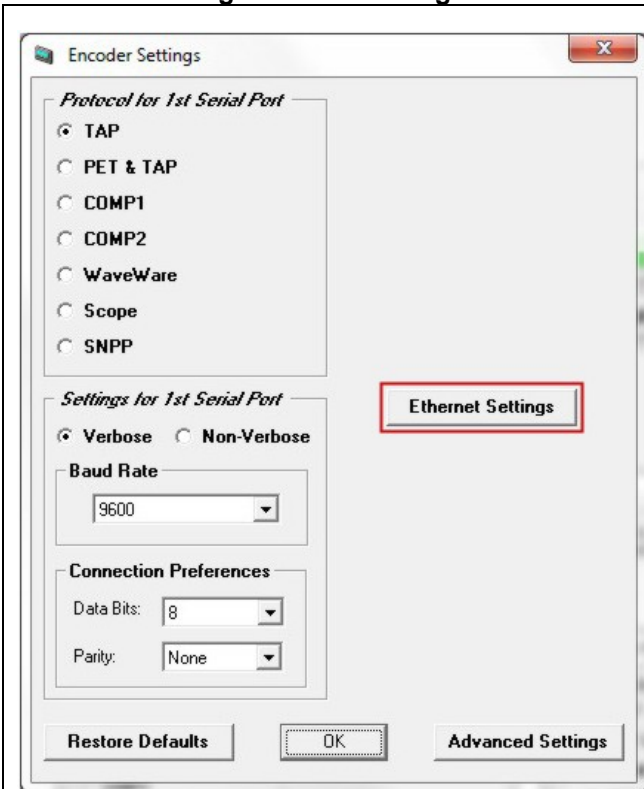


Fig. 3 Click **“Ethernet Settings”** Button

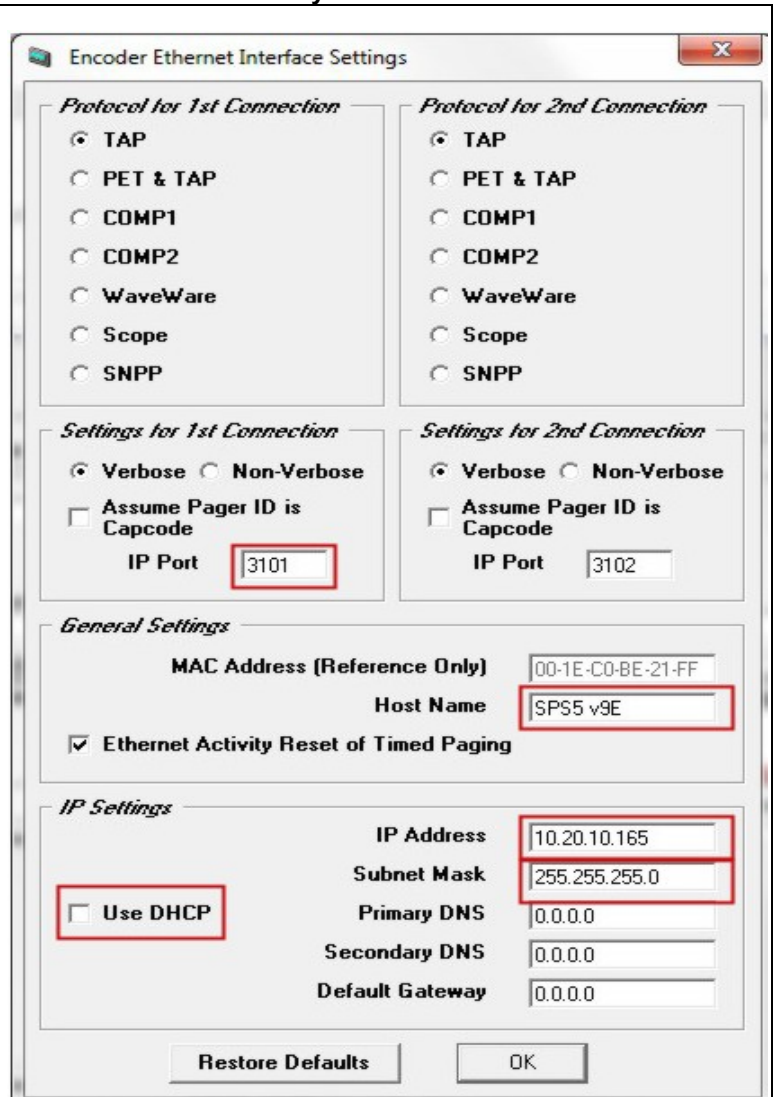


Fig. 4 Ethernet Settings Screen - Choose Protocol Settings and Uncheck DHCP and Enter the IP Address and IP Port Number

To use the **Serial Com Port** for Programming the SPS-5 v9E: (Continued...)

Set the Protocol for use with the “**Host System**”, (Generally TAP Protocol is used) and then the “**IP Port**” Number.

Note: This IP Port Number will be used to “**Match**” the Same as the Digi-One Port Number.

You can Match the Digi-One or you can make the Digi-One Match the v9E, it doesn't matter, as long as this Number is “**Identical**” in Both Devices.

Then “**Uncheck**” the “**Use DHCP**” Box, so that you will only use a Static IP Address Only and it will Not Change.

If the v9E is attached to the Customer LAN, it will Display an IP Address that was Assigned to it when it First Booted up. You may choose to continue to use this same IP Address or Enter a New IP Address instead.

Then, with the IP Address of the v9E Set, make Note of the Sub Mask as well.

The IP Address, the Sub Mask and the IP Port Number are All Required when Configuring the Digi-One Device.

If you have Configured the Encoder Ethernet Setting using the Software, Go to Page 6 for the Digi Setup, Step 2.

If you wish to Configure the Encoder using the Browser instead of the Encoder Setup Software, Go to Page 4.

Configuring the Digi One SP Device – (Continues on the Next Page...)

Configuring the Digi One SP Device - Continue

To use the Ethernet Port for Programming the SPS-5 v9E:

To use the Ethernet Port / Browser Connection, you will need to use the Discover Tool which is also included in the Encoder Setup Software to Find the IP Address of the v9E.

Install the Encoder Setup Software Included on the Support CD, (which is Sent with each v9E Transmitter). The Software File Name is: **encodersetupv9.exe**

Start the Encoder Setup Software and then Click the “Discover” Icon on the Far Right Side of the Main Screen. See Fig. 5 Note: You Do Not need to “Read” the Encoder so No need of Opening the Com Port.

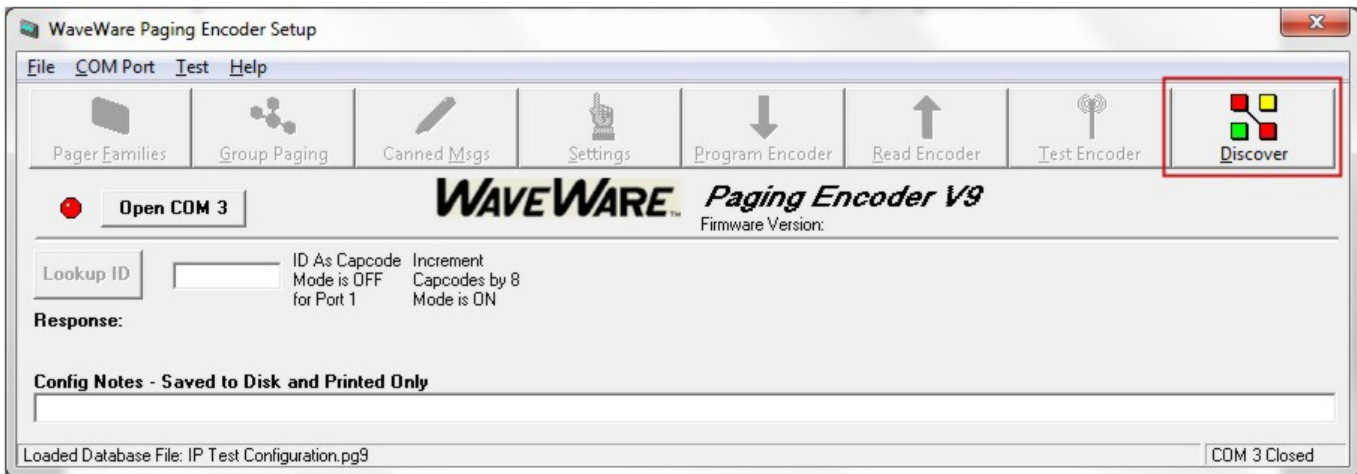


Fig. 5 Click the Discover Icon



Fig. 6 Click the Discover Button

This will Find ALL WaveWare Devices on the LAN it is Connected to and List them. See Fig.7

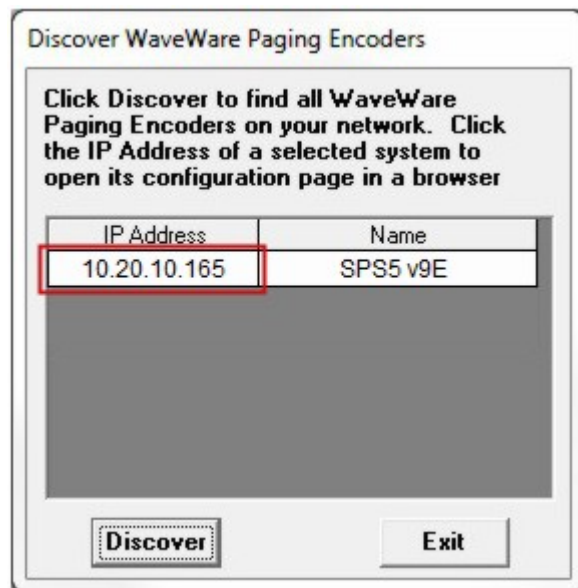


Fig. 7 Click the IP Address Field

This will Open a Browser for you... Or you Can Enter this IP Address into the Browser Manually

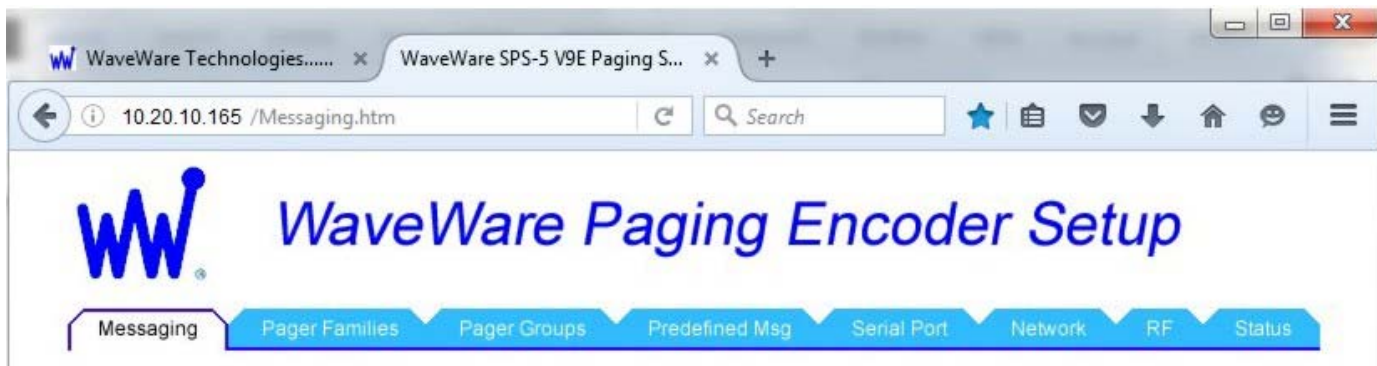


Fig. 8 Enter the IP Address into the Browser - Opens to the Encoder Setup Screen – Messaging

Click on the “Network Tab”- Opens to the Encoder’s Network Settings. See Fig. 9

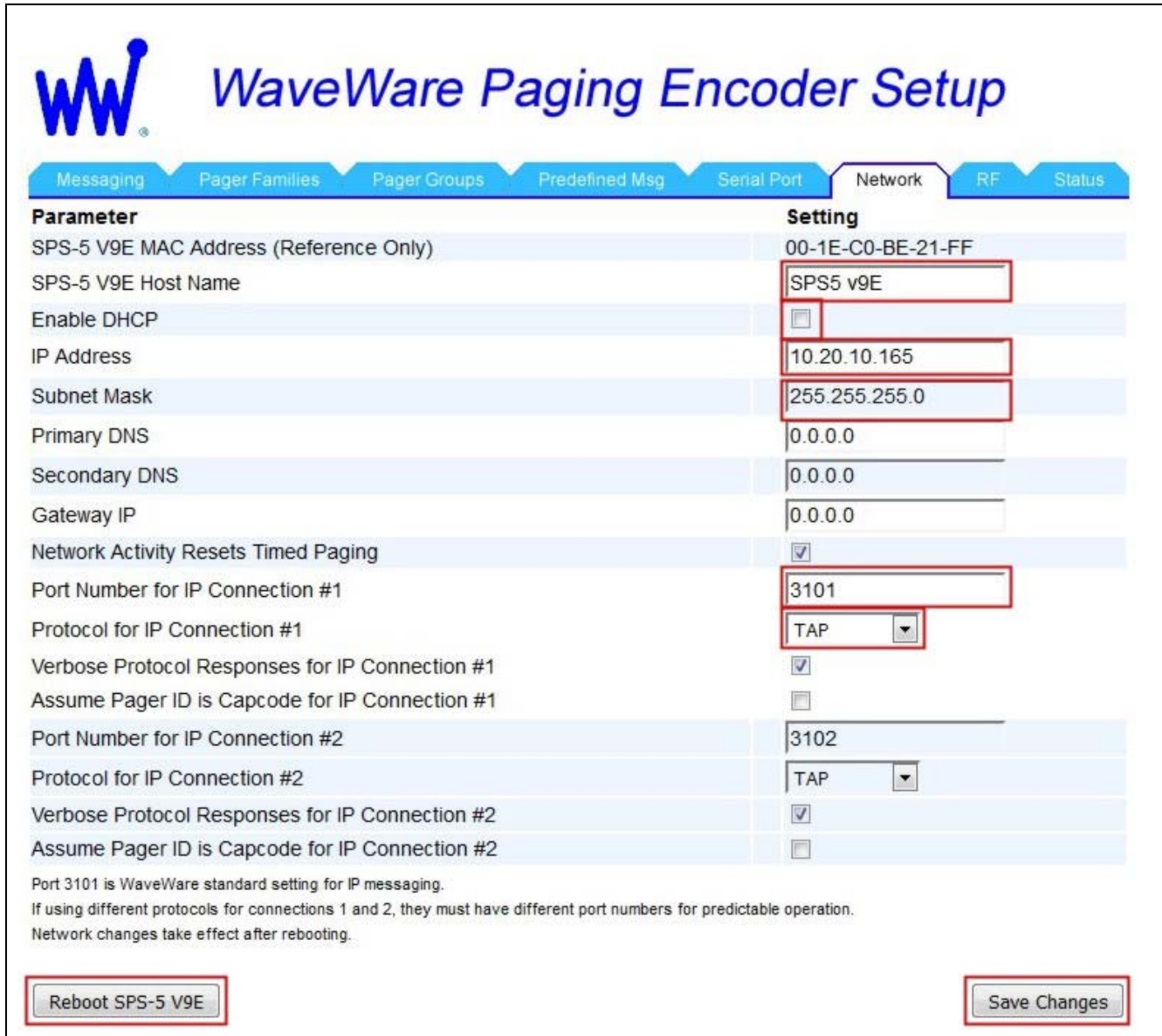


Fig. 9 The SPS-5 v9E’s Network Settings Screen –

After Entering All Required Information...(See All above Red Areas for the Required Data)...

Then, Click “Save Changes” Button and then Click the “Reboot SPS5 v9E” Button.

Note: (You can also Cycle the Power just to Help Confirm that you have a Proper Reboot).

This Completes the Encoder Setup. Next is to Configure the Digi One SP Device. See Next Page...(Page 6)

Step 2
Preparing the Digi-One SP:

Connect Digi-One to Power and Ethernet using the Customers LAN.

Open a Browser to gain Access to the Internet so you can go to the Digi.com Website.

Type into the Address Field: **digi.com/support** See **Fig. 10**

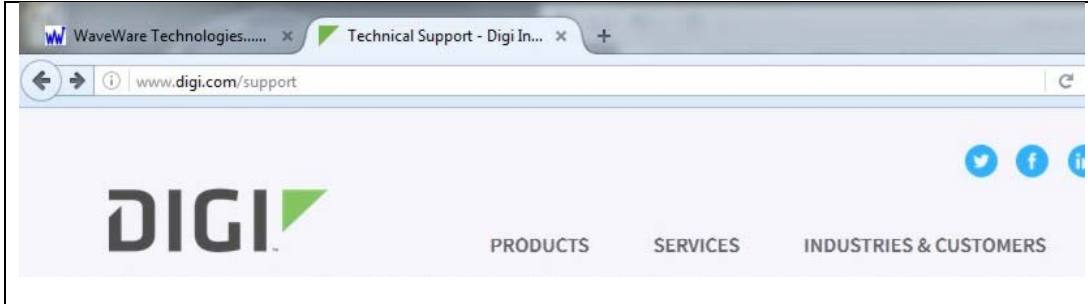


Fig. 10 Type in the Digi Website Address

Whenever asked to Log-in, use the same User Name and Password as Shown Below. (All Lowercase)

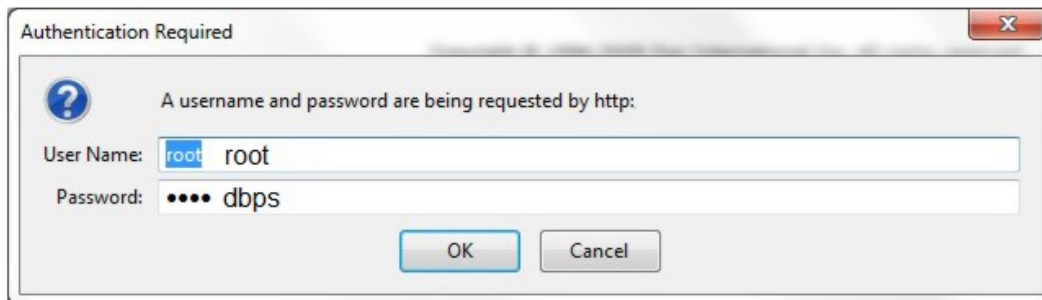


Fig. 10 “Log-in” - Type in the User Name and Password as shown above in with “all lower case” Text.

User Name: root **Password:** dbps

After you are Logged-in, Scroll to the Bottom Area of the Web Page.

Look under: “Digi Product Support” Title for the “Utilities” Text.



Fig. 10 Type in the Digi Website Address

Step 2 – Continued...

Click on the Text that says “Utilities”, to Open a New Web Page.



Fig. 10 Type in the Digi Website Address

On this New Web Page, and under the “Utilities” Title, you should See a List of Products. Scroll thru the List until you See your Device: The “Digi One SP”.

Click on the Text “Digi One SP” to Open a New Web Page.

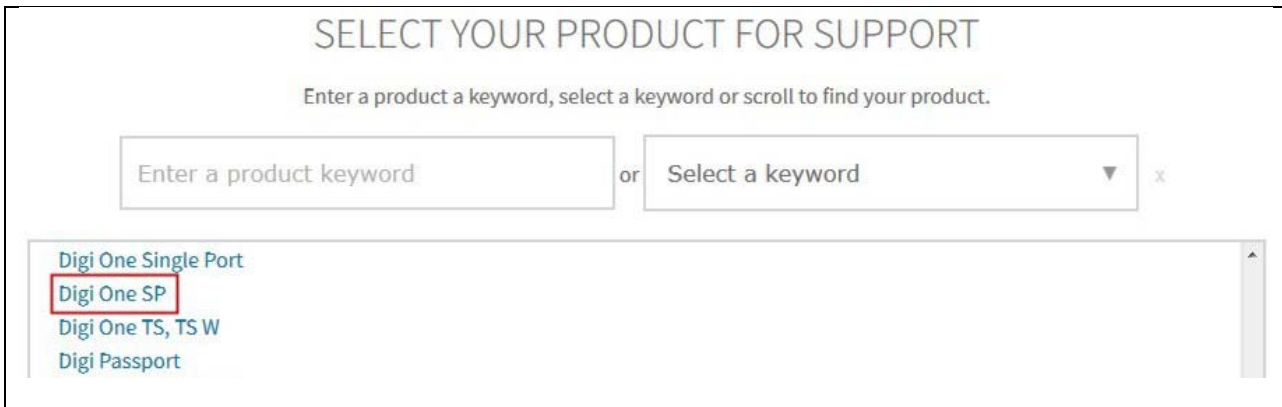


Fig. 10 Type in the Digi Website Address

On the “Digi One SP” Web Page, Click on the Text that says “Drivers”.

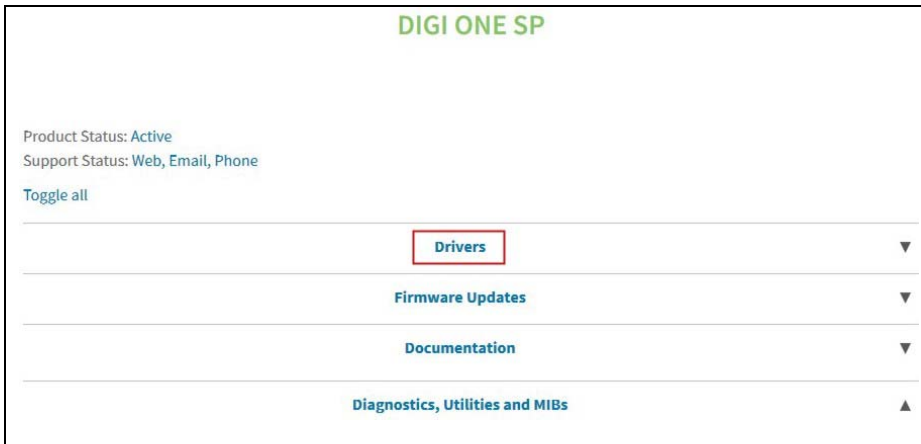


Fig. 10 Type in the Digi Website Address

You will now See a List of Operating Systems. Choose the Operating System of the PC that the Digi One Driver Setup Software will be Used with.

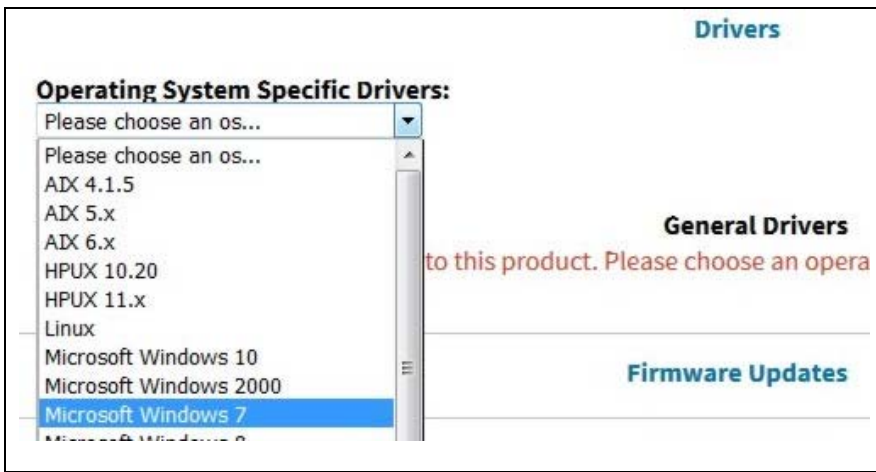


Fig. 10 Type in the Digi Website Address

Step 2 – Continued...

Now you will see a List of “Realport” Drivers.

Please be sure to Choose and Click on the Actual Driver... (Do NOT Choose the Driver Release Notes).

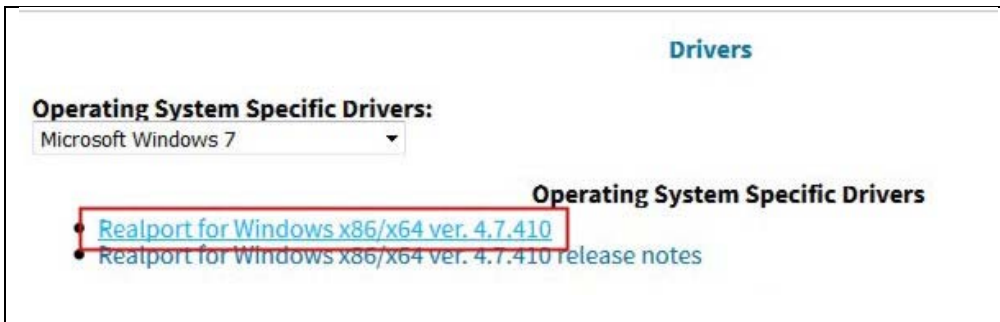


Fig. 10 Type in the Digi Website Address

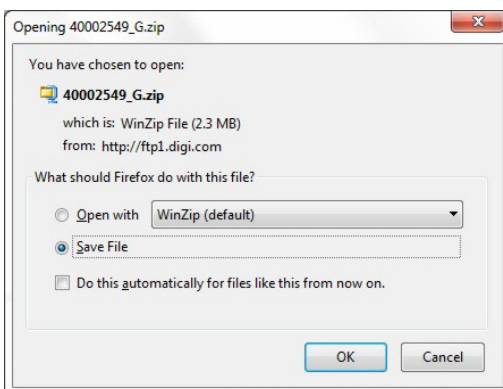


Fig. 10 Click “OK” to Save the Realport Driver Download to a Folder.

Best to just Create a Digi-One Folder to Store the File.

Then Open that New Folder and DBL Click it, to Open the File so that you can Extract the Contents to the New Folder you just Created.

Now Find the “Setup.exe” File and DBL Click to Start the Installation Process.

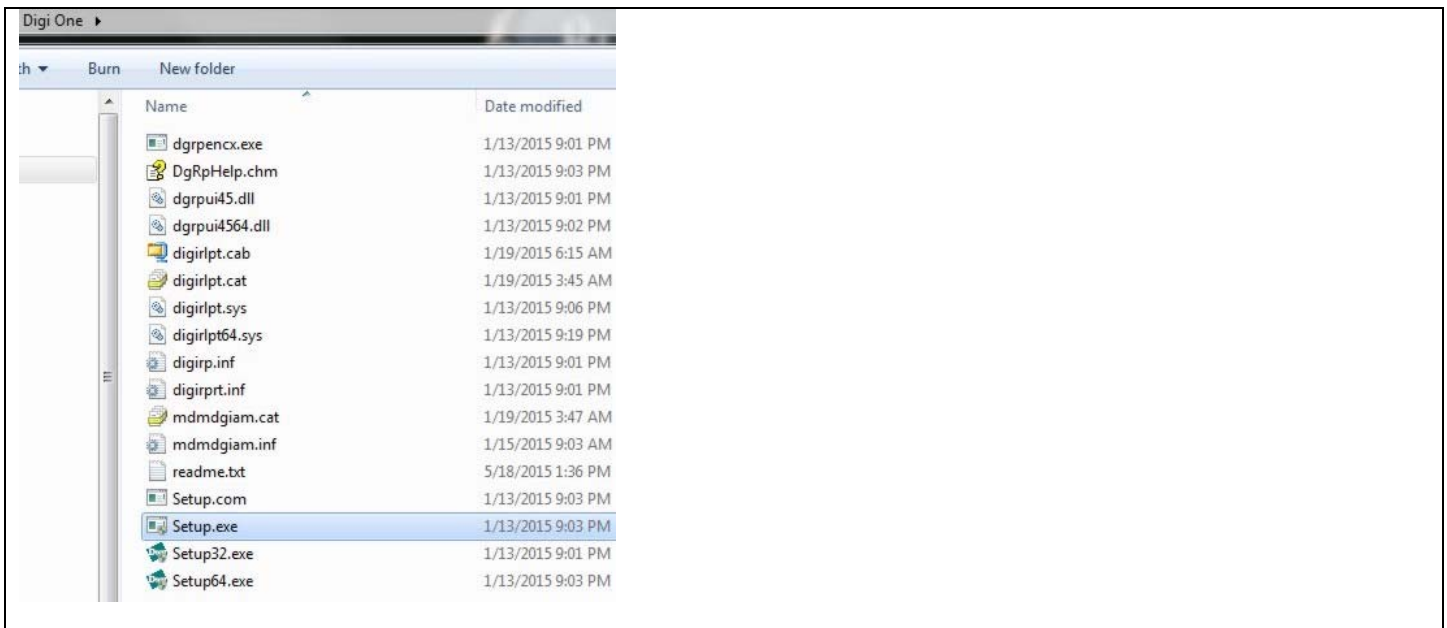


Fig. 10 Type in the Digi Website Address

IMPORTANT NOTE: You are **NOT** going to Actually Install this Driver...

This 2 Step Process is ONLY so you can Find Out what “IP Address” was Assigned to the Digi-One Device as it is Set for DHCP from the Factory.

The Network Assigned an IP Address to the Digi-One as soon as it was Attached to the LAN and Powered Up.

We are about to Lock-in that IP Address or you may wish to change it, which can be done, in the Next Few Steps.

After Clicking on the Setup File, you may have to Give “Permission” to Run the Program, Please do so.

You will then see the Digi Realport Setup / Installation Wizard’s First Screen.

Click “Next” to Continue.

This Next Screen shows you the List of All Realport Devices that it Found on the LAN.

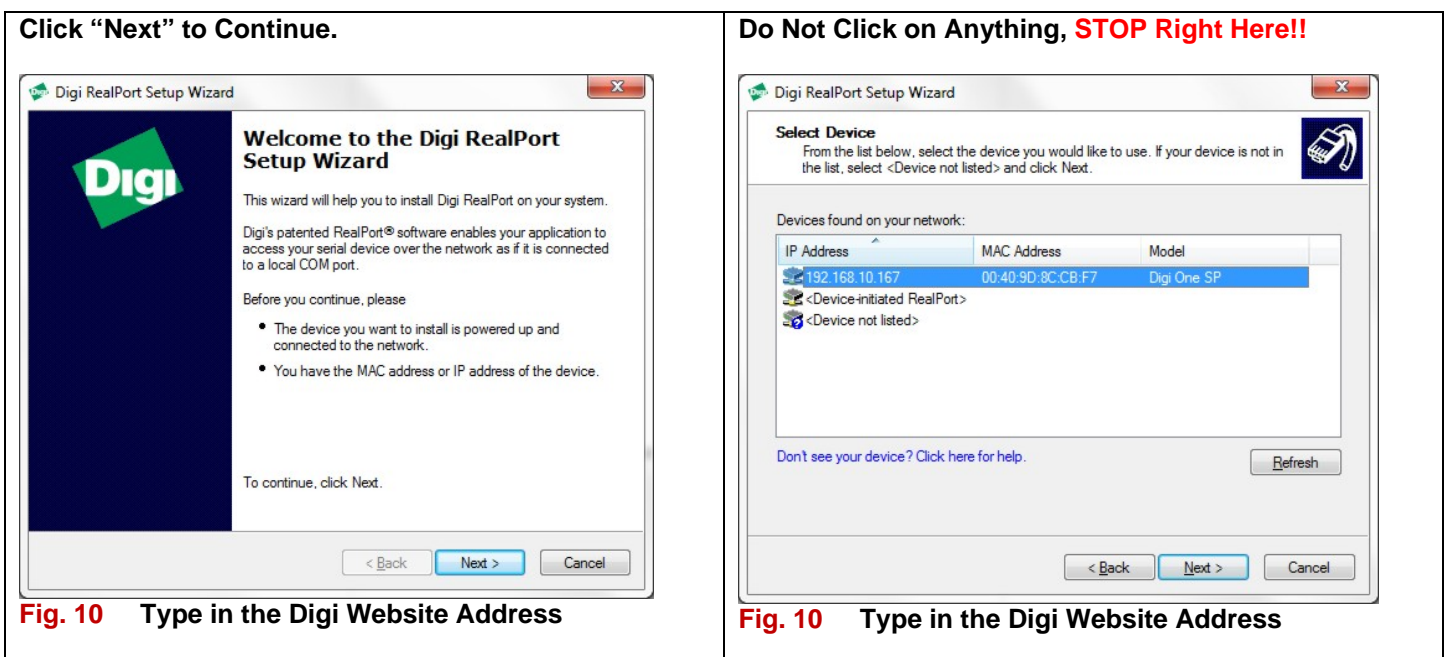


Fig. 10 Type in the Digi Website Address

Fig. 10 Type in the Digi Website Address

Make Note of the “IP Address” of the Digi-One Device you are Installing.

Important Note: If more than One is Listed...Then Please Check the “MAC Address” of the Device you are Installing against the Device in the List.

Use the IP Address of the Matching MAC Address of your Digi-One Device.

Now Click the “Cancel Button” to Exit this Setup Process.

You may either Keep this Folder with the Digi-One Realport Driver Data, or Delete it. It is Suggested that you keep it Stored on the PC, in case it may be needed again sometime in the Future.

Step 3:
Configuring the Network Port of the Digi-One:

Now Open a Web Browser and Enter the IP Address you just obtained in order to Gain Access to the Digi-One’s Configuration.

On this Web Page, Under the Configuration Listing, Click on the “**Network**” Text.

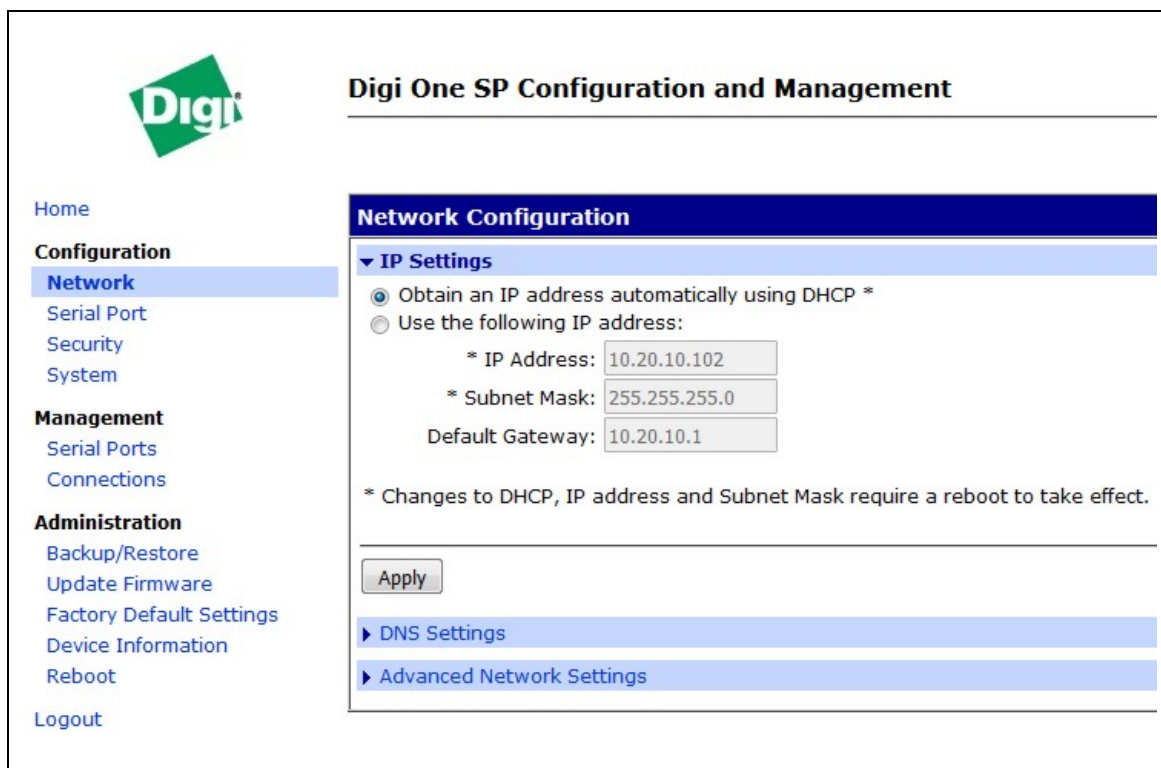


Fig. 10 Type in the Digi Website Address

You will Notice that the Digi-One is Set to DHCP and Note the IP Address that was Assigned to the Digi-One. You can either Keep this IP Address or Change it.

Normally you will just use this one. If you wish to Change the IP Address, this is the Time to do so.

Click on the Radio Button with the Label of: “**Use the Following IP Address**”...

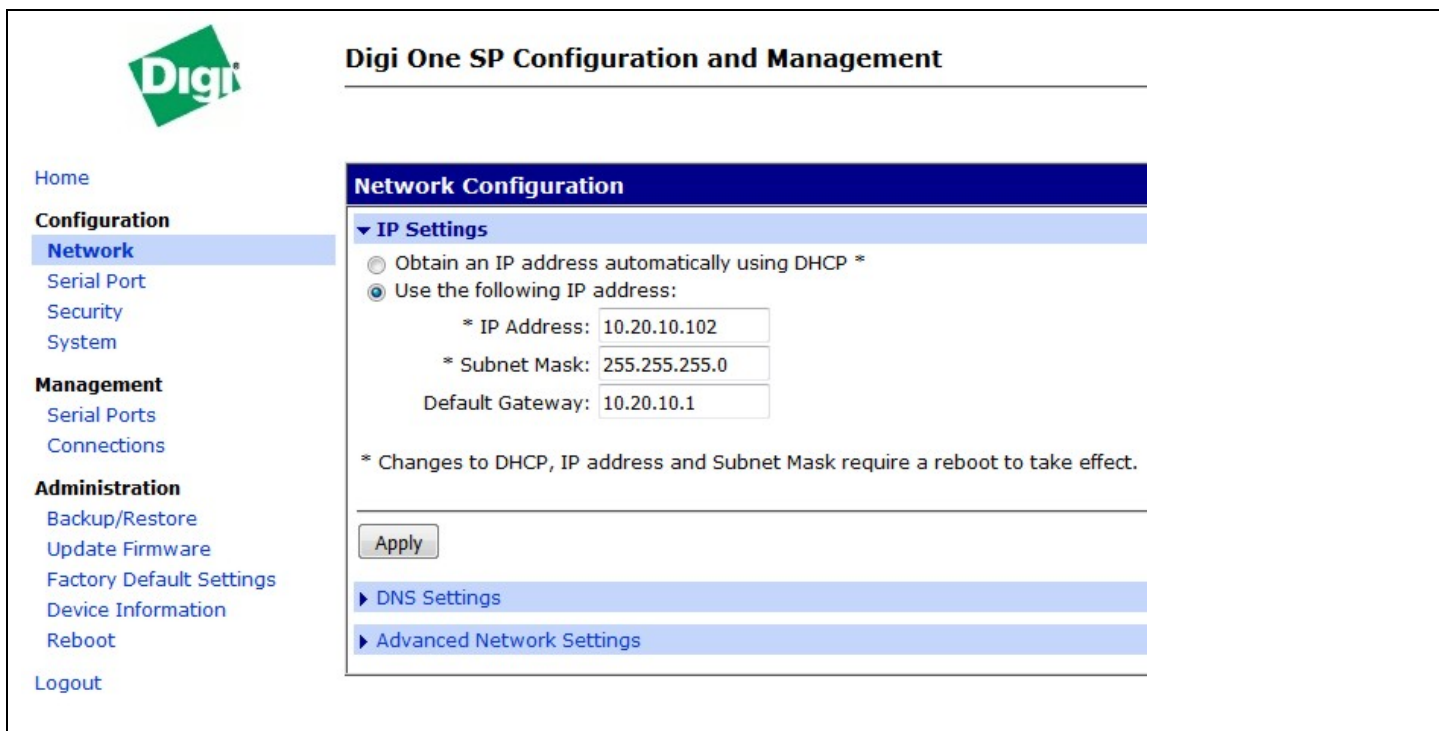


Fig. 10 Type in the Digi Website Address

This is to Allow you to “Lock-in” the IP Address Permanently, so that the Digi-One doesn’t Change the IP Address any Time that it loses Power or if the Power was Cycled for any Reason.

Note: For this Type of Configuration the IP Address and the Subnet Mask are the Only 2 Fields that are Important to Remember.

Now you will need to Click the “**Apply**” Button to Save the Setup / Configuration.

At this Time, you will need to “**Reboot**” the Digi-One Device. (“**Cycle Power**” to the Digi Device to Reboot)

Unplug from Power Source for about 5 Seconds.

Re-Apply Power and you will need to Wait a Good 30 Seconds or so for the Device to Fully Boot up.

You will Note that the Yellow Light on the Device will be Flickering, the Red Light will be Solid to Start, then it will Blink 2 or 3 Times and the Green Light will also Blink at least 1 Time. Then the Green and Red will be Solid again.

Now the Digi-One had been Successfully Re-Booted.

After Boot up...Continue to Step 4.

Step 4

Configuring the Serial Com Port of the Digi-One:

Note: Be sure to have All the Previous Information with you for this Next Step.
You may also have to Re-Log- in to the Device.

Once you have “Logged-in”, then Click “**Serial Port**” Text on the left side of the Screen.

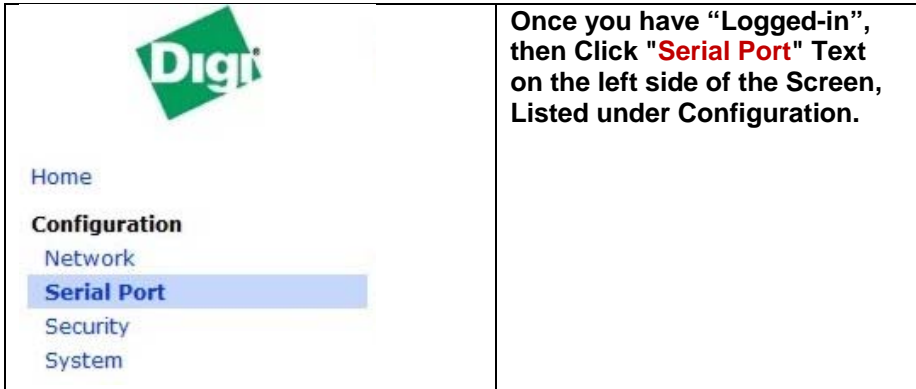


Fig. 10 Type in the Digi Website Address

Under “**Port Profile**”:

Check to see if the “**Current Port Profile**” is Set to Realport or TCP Sockets (or anything else)...

If this is Not already Set for TCP Sockets, then you will need to Change this Profile.

To Change the Profile:

Look at the Top of the Page, Click on the “**Change Profile**” Text.

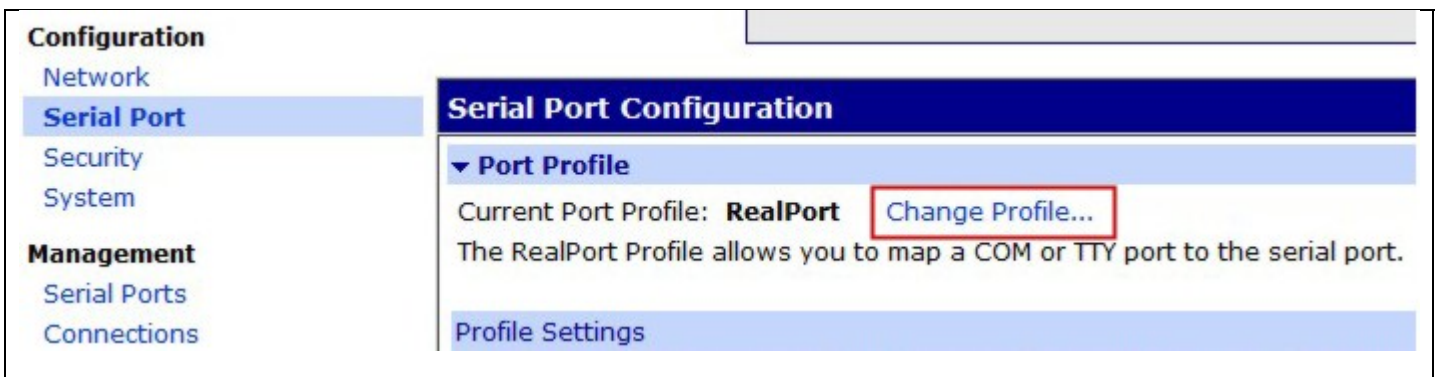


Fig. 10 Type in the Digi Website Address

Select “TCP Sockets” from the List and at the Bottom of the Page Click “Apply”.



Fig. 10 Type in the Digi Website Address

Step 4 – Continued...

In the Next Screen, make sure that the "Automatically Establish TCP Connections" is: "Checked"

The "Connect" is Selected as: "Always".

The Set "Connect To" would be the Paging System's Assigned "IP Address".

The Set "Service" to is: "Raw".

The Set "TCP Port Number" would be the Paging System's "IP Port Number". (Note: This Must Match!)

The "Flush Start Character" is set to: "Auto".

And Both "Send Keep Alive Packets" and "Auto Drain on Close" are "Unchecked".

Now DBL Check to be sure that Everything Matches as Shown in the Screen Shot Below...

Serial Port Configuration

▼ **Port Profile**

Current Port Profile: **TCP Sockets** [Change Profile...](#)

The TCP Sockets Profile allows a serial device to communicate over a TCP network.

Profile Settings

TCP Server

Connect to the following TCP ports on the network (calculated from [Base Socket](#)).

Telnet TCP Port: 2001 *Unavailable*
 Raw TCP Port: 2101 *Unavailable*

TCP Client

Automatically establish TCP connections to a server or other networked device.

Automatically establish TCP connections

Connect: Always
 When data arrives
 When DCD goes high

Connect To:

Service: ▼

TCP Port Number:

Flush Start Character: ▼

Send Keepalive Packets:

Auto Drain on Close:

Fig. 10 Type in the Digi Website Address

Now, Click "Apply".

Click on "Basic Serial Settings" just Below the "Apply" Button, so that you can make sure the Serial Port Settings are Set to Match the "Host System".

- ▶ **Basic Serial Settings**
- ▶ Port Security Settings
- ▶ Advanced Serial Settings
- ▶ Restore Factory Serial Port Settings

Fig. 10 Type in the Digi Website Address

Enter the Serial Port Configuration that will Match the "Host" System, (The Nurse Call, etc.)

The screenshot shows a web-based configuration interface for a serial port. The main title is "Serial Port Configuration". Underneath, there are several expandable sections: "Port Profile", "Basic Serial Settings", "Port Security Settings", "Advanced Serial Settings", and "Restore Factory Serial Port Settings". The "Basic Serial Settings" section is expanded and contains the following fields: "Description" (text input with "Nurse Call"), "Baud Rate" (dropdown menu with "9600"), "Data Bits" (dropdown menu with "8"), "Parity" (dropdown menu with "None"), "Stop Bits" (dropdown menu with "1"), and "Flow Control" (dropdown menu with "None"). Below these settings is an "Apply" button. The other sections are collapsed.

Fig. 10 Type in the Digi Website Address

Double Check Everything and Click "Apply" when Done.

May ask you to Log-in to be able to Apply these New Settings.

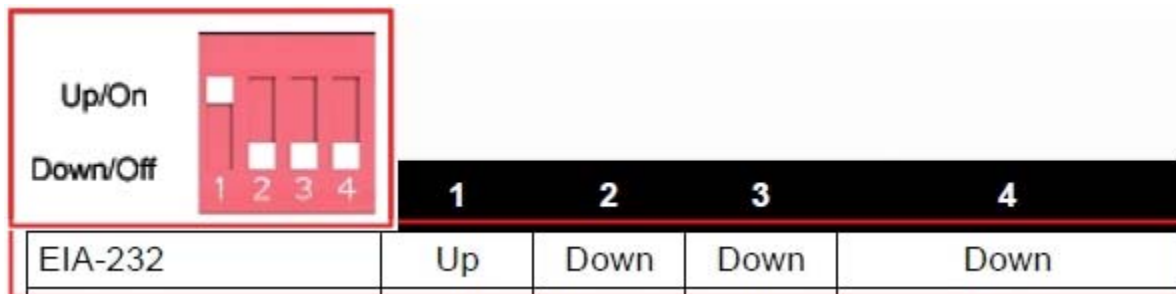
This should be All the Configuration that is Required.

Notes:

You will need a Cross-Over Network Cable for Connecting the v9E to the Digi-One Device.

In Most Cases you will also need a Null Modem Serial Cable to Connect the Digi-One to the PC or Host System.

Digi-One SP Dip Switch Settings:



Set Dip Switches as Shown above for use with Serial "Input" into the Digi-One SP.

For Additional Information, you can View and Download the Digi-One SP User Manual here:

http://ftp1.digi.com/support/documentation/92000326_D.pdf

Last Step:

Be sure to Enter the Pager Database Information as Required to Communicate with the Host System. Same as if this were a Serial Connection Only.

The main difference is that instead of using a Serial Cable, you are now using the Ethernet Cable. So All other Settings and Programming are the same as before.

This Completes the Setup Guide.

For Technical Support Users Please Contact your Dealer.

Dealers Please Contact WaveWare Technologies.

Phone: 1.800.373.1466 x216 or Email us at: Support@WirelessMessaging.com

Troubleshooting Steps are Next...

Before contacting Tech Support, check the following:**Introduction**

Before contacting Tech Support there are several things you can do to identify if the problem is related to hardware, software, or firmware. The following sections will walk you through the basic diagnostic procedures.

Hardware

The following tests or procedures will help you determine if the problem is related to the hardware.

Power

Always check the power first. The LED panel on the device server will indicate if the power is detected.

The Digi One IA uses a green power light and the Digi One SP uses a red power light.

Be sure to use a proper power supply for your device. The Digi One SP comes with its own power supply. Use the table below for the Digi One IA power requirements.

Input Voltage	Input Current
9V	414mA
10V	333mA
11V	297mA
12V	268mA
13V	244mA
14V	210mA
20V	153mA
25V	125mA
30V	105mA

Ethernet Cable

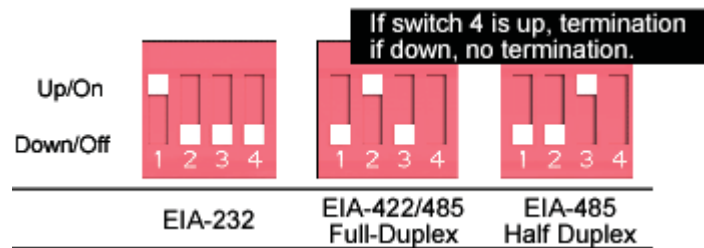
When you connect the Ethernet cable, the Digi One IA Red Link LED should go out. If it stays on, the network is not detected. The Digi One SP Green Link LED should stay on. If it goes out, the network is not detected.

Check the Ethernet cable for the following:

- Connected securely at both ends
 - Pinned correctly
 - Quality is sufficient for cable length and environment
 - Ethernet hub is properly configured
- Refer to the Chapter 8 Reference for more information about LEDs.

EIA 232/422/485 Switches

Verify the EIA 232/422/485 switches are set to your peripheral device's requirements. These settings are on the Digi One IA label, the Quick Start guide for the Digi One SP, and the reference section of this guide. However, if you are having trouble logging on to the Digi One IA device and assigning an IP address, set the switches to EIA-232 (1-up; 2, 3, & 4 - down). After your initial configuration, change the switches to match your peripheral device's requirements. Go to Chapter 8 for additional Reference information.



The IP address must be configured on the device server and the Subnet Mask and Gateway must be correct before it can be accessed on the network

Verify the Digi device server's IP address using PING. See Chapter 2 Getting Started page 14 for instructions.

If you are unable to PING, you may have a duplicate IP address or the IP is not configured correctly. Go back to Chapter 2 or run the wizard from the CD to set the IP address.

If you can PING, you can now verify the connection to the serial port on the device server. Connect the loop back plug (shipped with your device) to the serial port on the device server. Make a connection between the serial port of the device server and your operating system using the following Telnet command:

```
telnet 191.168.2.2 2001
```

(use the IP address you assigned)

Type a unique word or phrase to see if it displays on the screen properly - that is every stroke is displayed. Verify that local echo is not on by removing the loop back and type another word or phrase. There should be no display. If the display is correct with the loop back, you have successfully connected to the port and your device server is configured correctly. To disconnect, press Ctrl] and at the Telnet prompt, type quit.

If you are unable to Telnet to the port, make sure you are running the latest firmware release available and the port is configured to accept inbound

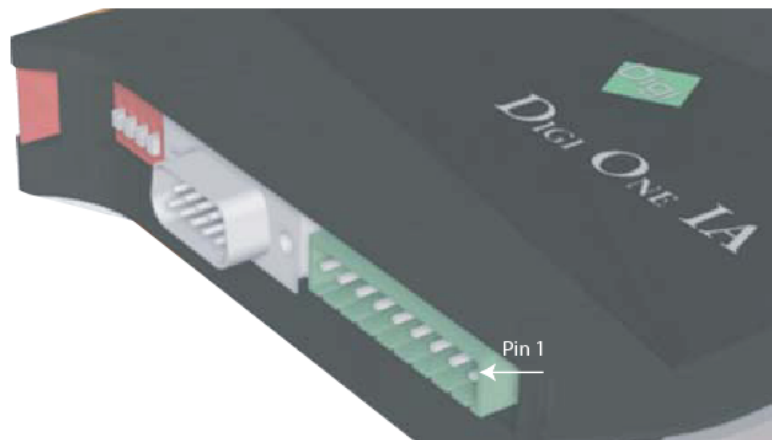
connections.

If your device server is configured correctly but you are unable to communicate with your serial device connected to the device server port, check the cabling.

Cabling

Make sure you have the proper cabling from the Digi One IA (or SP) device server's serial port to the connecting device. The Digi One is a DTE device.

The DB9 pinout can be found on the Digi One IA device label or on the Quick Start Guide for the Digi One SP. If you are using the Screw Terminal Block instead of the DB9 serial port, count pin # 1 as the one farthest from the DB9 serial port. Pinout information is also available in this manual and online at <http://support.digi.com>.



If your cabling is correct, try resetting the device in Chapter 7 Administration, page 46 or 47.

Software - RealPort

Install RealPort according to the procedure in Chapter 3 pages 19-21. If the IP address is set correctly but you are having trouble with RealPort, verify TCP port 771 is open for the RealPort driver to get to the Digi One device server.

1. Download RealPort from the CD enclosed with the device server or from the Tech Support FTP site.
2. Verify you have the latest version of the driver installed.
3. Open up HyperTerminal and connect to the COM Port you want to test.
4. Plug the DB-9 Loop back (shipped with the product) into the serial port into the Digi device.
5. Type a unique word or phrase to see if it displays on the screen properly - that is every character or keystroke is displayed. Verify that local echo is not on by removing the loopback and typing another word or phrase. There should be no display. If the display is correct with the loopback, you have successfully connected to the port and your device server is configured correctly. If it doesn't work go to step 6.
6. If you continue to have problems, try to Telnet to the device server serial port (as discussed earlier in this chapter) to verify the hardware setup.

If HyperTerminal works with the loop back but you cannot communicate with your serial device, check the cabling.

Firmware

If your hardware is okay, make sure you are running the latest firmware version available. Check the Digi Support site for the latest firmware and/or POST updates for your device:

<http://ftp.digi.com/support/firmware>

1. Download a copy of the firmware file.
2. Access the Digi device server's web interface by entering the Digi device server's IP address in a browser's URL window and log on (User Name `root`, Password `dbps`).
3. Click **Update Firmware** from main menu.
4. Browse to the location on your system where the firmware has been saved, select the correct file, and click **Update**.
5. Reboot the device when prompted.
6. Access the Digi device server's web interface and verify on the Information Page that the Firmware version has been successfully updated.

Do not leave your browser until you are prompted to reboot.