ROTRONIC Wireless Devices Master Reset and Configuration Settings

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Overview

The ROTRONIC wireless devices (wireless Ethernet LAN) use an internal server module from Digi International (Digi Connect WI-ME). This technical note provides instructions regarding the configuration settings that should be used in the event that a master reset of the Digi module becomes necessary. The configuration settings for a factory new ROTRONIC wireless device can easily be derived from these instructions.

Preparations

The following preparations apply both to the situation of a master reset and a new factory device.

Network information

- The subnet mask of your network
- The local IP address of your wireless router
- An unused static IP address that is compatible with your network (required only when a static address will be used)

Wireless router settings

Note: it is highly advisable to use a cable connection between the wireless router and the PC used to configure both the router and the Digi Connect WI-ME module. If using wireless communication between your PC and the router, you will have to temporarily make changes to the PC in order to keep communicating with the router. This may create yet another level of potential problems.

Prior to first time use or following a master reset of the ROTRONIC wireless device, you should access your wireless router web server and check / modify the following configuration settings on your wireless router:

- Wireless network mode: (802.11b or 802.11g or both). Setting the router to Both is recommended.
- Wireless channel (6 2.437 GHz or 5 2.432 GHz, etc.). All devices connected to the
 wireless network should use the same channel in order to communicate. Channels 5 and 6
 are the most frequently used. By default the Digi Connect WI-ME is configured to autoscan all wireless channels. This configuration setting should not be changed.
- Temporarily remove any network name (SSID) since all devices connected to the wireless network must share the same SSID in order to be able to communicate. To verify that the router does not make use of any network name, you may want to temporarily enable network name broadcast.
- Temporarily disable all wireless security setting on your wireless router such as WEP security
 mode or other. Not disabling wireless security will prevent integration of the Digi module with
 your network (device detection and communication will be not possible).
- Set Authentication Type to Auto (Linksys WRV54G > Wireless > Advanced Wireless Settings)

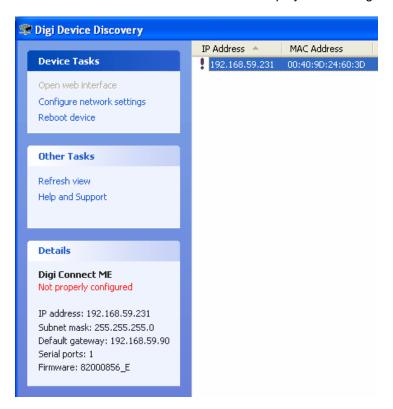
Digi Device Discovery

A device discovery utility (**Digi Device Discovery**) is provided in the HW4 installation directory (usually, C:\Program Files\HW4).

The Digi Device Discovery utility can be started using any of the following methods:

- In the HW4 installation directory, double click with the mouse on the file **dgdiscvr.exe**
- In the HW4 main menu bar, click on Settings and Tools > Ethernet Configuration Tool

Whether the ROTRONIC wireless device is factory new or has been reset, it is unlikely that the device IP settings are compatible with your LAN. Digi Device Discovery is supposed to detect devices even in that situation and should display the warning "Not properly configured".



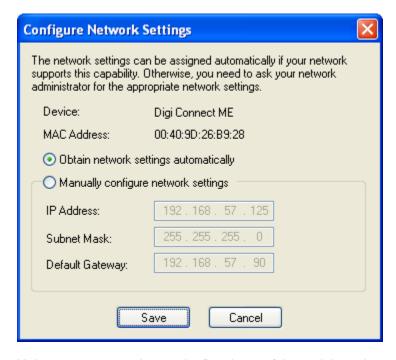
NOTES:

Should Digi Device Discovery fail to detect your wireless device(s), you may want to try using the HW4 main menu bar > Devices and Groups > Search for Ethernet Masters.

In the right pane of Digi Device Discovery, right click with the mouse on the device to be configured.

New device from the factory

In the right pane of Digi Device Discovery, right click with the mouse on the device to be configured. A small menu appears. Select "Configure network settings". Initially, you should select "obtain network settings automatically". If you want to use a static IP address, you may want later on change this selection to "Manually configure network settings" and enter the desired address without changing the subnet mask and the IP address of the gateway (this is the LAN IP address of the router).



Unless you want to change the Baud rate of the serial port because of other devices connected by RS-485 to your device, no additional configuration should be required.

Master reset

DHCP (automatic network settings) is the default setting following a master reset. In the right pane of Digi Device Discovery, select (highlight) with the mouse the device to be configured. In the left pane, select Open Web Interface under Device Tasks.

Digi Web Interface

Login

Initially, the web interface should open the login page:



Depending on the situation, use the following Username and password:

	Factory Standard	After a Master Reset
Username	rotronic	root
Password	wlan	dbps

Doing a Master Reset

Warning

Use the master reset procedure only when absolutely necessary: on occasions, the Digi module has problems resetting. In addition, the user must reconfigure all module settings manually.

Procedure

The following procedure is written for a wireless docking station and can easily be adapted to other types of ROTRONIC wireless device.

- Remove the AC adapter (power) from the docking station
- Remove the HygroLog NT from the docking station
- Connect pins 7 and 8 of the docking station 15-pin connector

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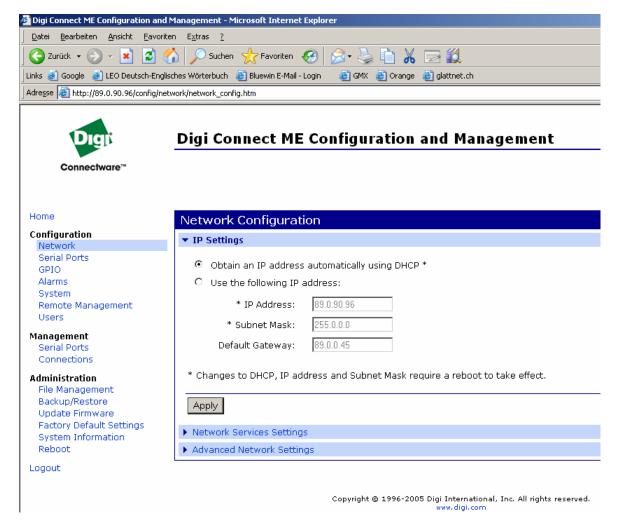
- Connect the AC adapter to the docking station
- The docking station yellow LED flashes after about 10 seconds
- Wait at least 2 minutes (during this time the yellow LED will flash several times)
- Remove the connection between pins 7 and 8 of the docking station 15-pin connector. Do not disconnect the AC adapter from the docking station.
- During the next 2 minutes, no LED should be flashing
- After about 2 minutes, the Digi module restarts automatically. The yellow LED comes up first (solid) and then the green LED starts flashing.

Default configuration after a master reset

After a master reset, the Digi module should default to the following configuration settings:

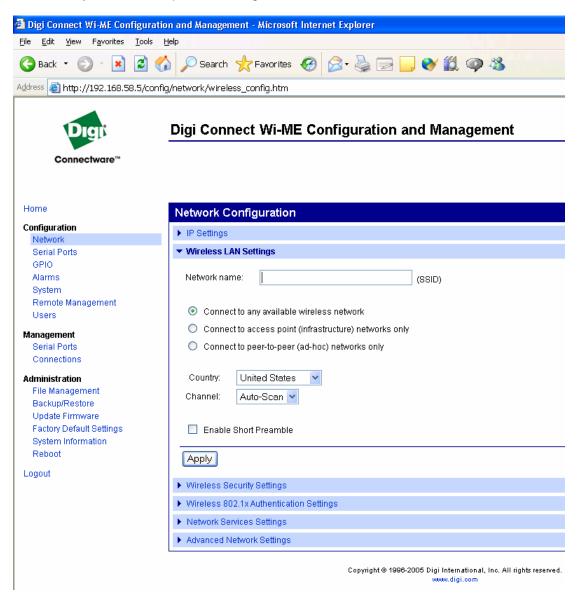
IP Settings

Note that the Digi module is set to DHCP (automatic configuration of the IP address, subnet mask and gateway IP address by the wireless router). At this time you should keep this setting.

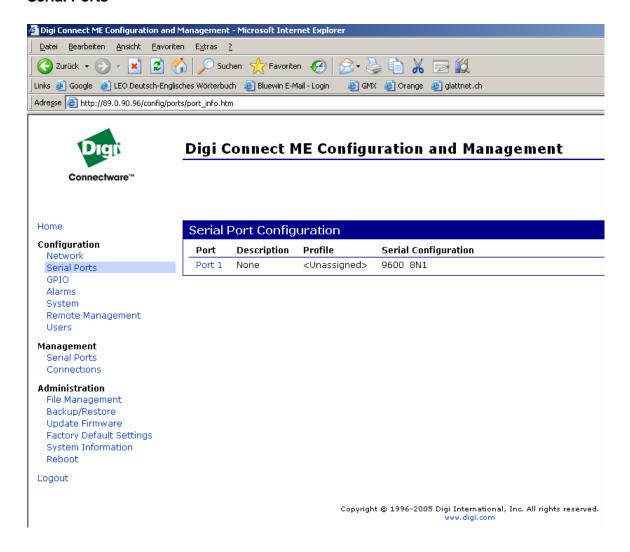


Wireless LAN Settings

At this time you should keep these settings.



Serial Ports

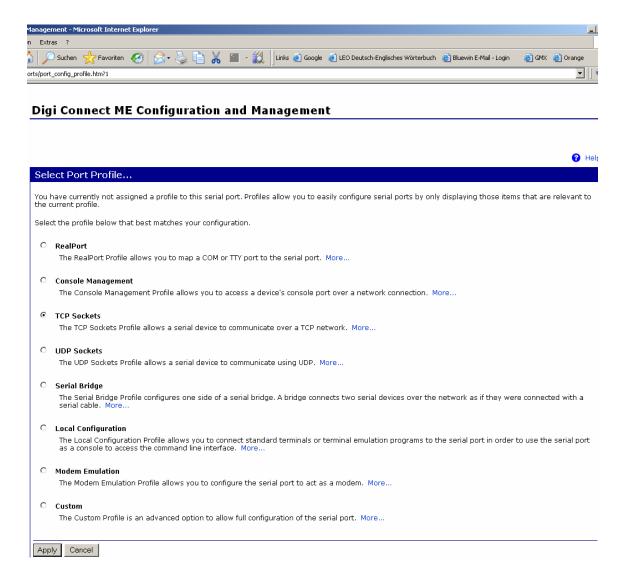


IMPORTANT: the above settings are not compatible with the ROTRONIC wireless devices and should be changed as indicated under Serial Port Configuration after a Master Reset.

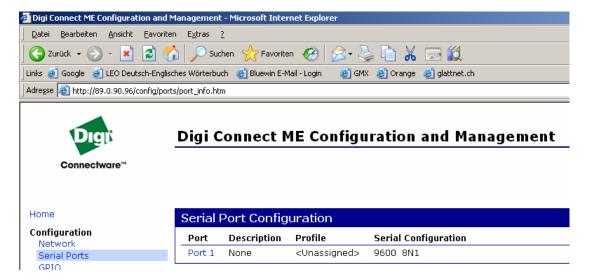
Serial Port Configuration after a Master Reset

In the left pane, select Configuration > Serial Ports. If for some reason no port profile was configured, the following page will open:

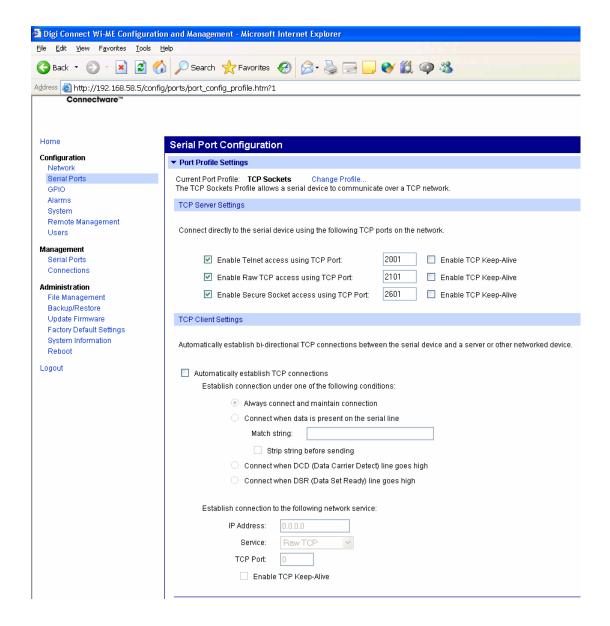
Select TCP Sockets.



In the normal situation, the following page opens when clicking on Serial Ports in the left pane:



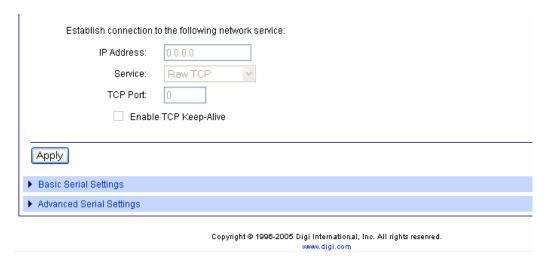
TCP Server Settings (TCP Sockets)



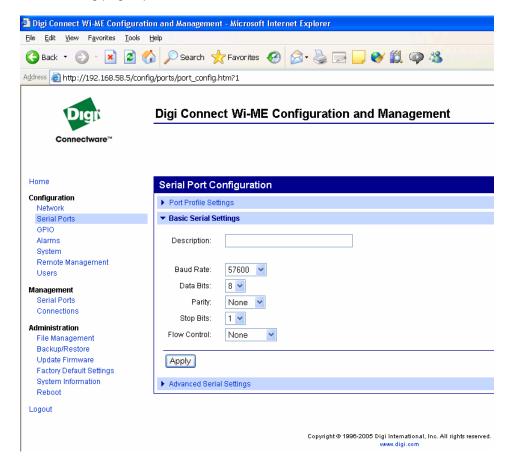
Configure the serial port exactly as shown above.

Basic Serial Settings

Move to the bottom of the page and click on Basic Serial Settings:



The following page opens:



Set Data Bits, Parity, Stop Bits and Flow Control as shown above.

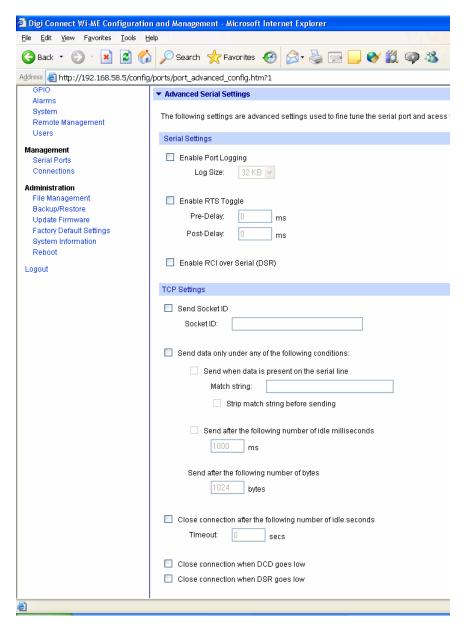
• Depending on the type of ROTRONIC wireless device, set the Baud rate to either 57600 or 19200.

The following are the default Baud rate factory settings for the ROTRONIC wireless devices:

Docking Station (HygroLog NT)	57600
DI interface	57600
Other devices	19200

Advanced Serial Settings

Normally, this page is not used. The following screen-shot shows the default settings:

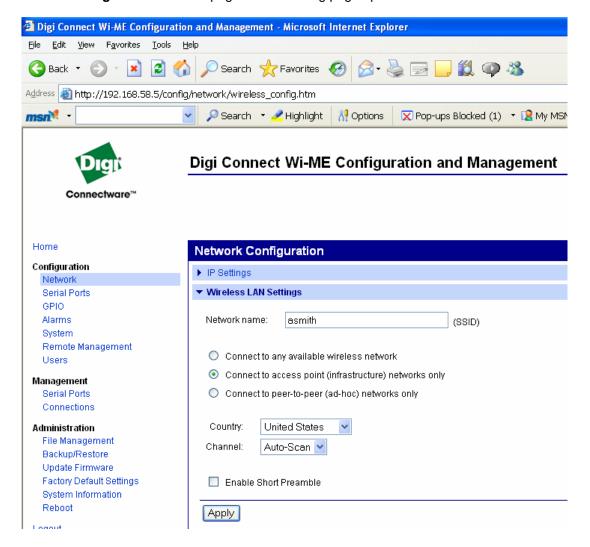


Wireless Security

IMPORTANT: Wireless security should be enabled first on the ROTRONIC wireless device and last on the wireless router. Enabling wireless security in the reverse order will not work.

The following example shows how to use both a network name and WEP keys.

 In the Digi module web server home page select Network under Configuration and Wireless LAN Settings in the Network page. The following page opens:

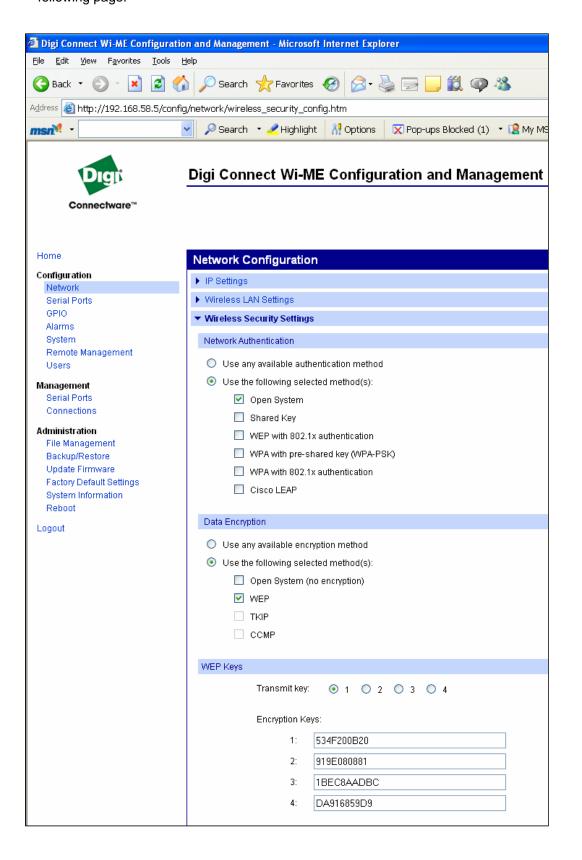


Enter your wireless network name (SSID) to point the wireless module to your network. At a later stage, the wireless router will be configured to use the same network name.

Select "Connect to access point (infrastructure) networks only".

At this time, do not click on Apply or you will lose communication with the wireless router.

• To use WEP keys, click on "Wireless Security Settings" (bottom of the page) to open the following page:



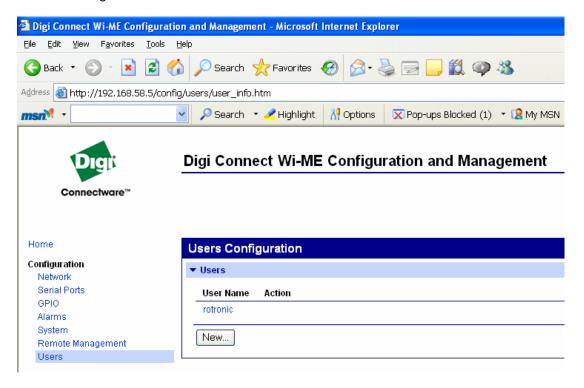
Under Network Authentication, select "Use the following selected methods" and "Open Network".

Under Data Encryption, select "Use the following selected method(s)" and WEP (assuming that your wireless network is set to use WEP. Under WEP keys, enter the value of each WEP key (for 64-bit encryption, each key has 20 hexadecimal characters). The WEP keys must be identical to those used by the wireless router. Note that the WEP keys should be specified as HEX values (0-F). ASCII characters are not accepted.

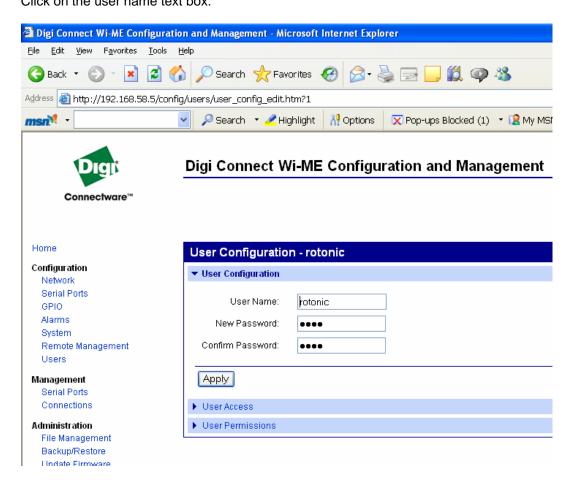
- Click on Apply and exit the module web server.
- Access your wireless router configuration and re-establish wireless security and the WEP keys.

Changing the Web Server User Name and Password

Click on Configuration – Users



Click on the user name text box:



Change the user name and password as desired. Click on Apply.

Changing the Baud Rate of the ROTRONIC Device

When a ROTRONIC Ethernet device ¹ is used as the master device in a RS-485 multi-drop network, it may be necessary to change the factory default baud rate because all devices in the RS-485 multi-drop must use the same baud rate.

Changing the baud rate of an Ethernet device is a two step process (to be followed in the indicated order):

- (1) Change the baud rate in HW4 > Device Manager > Interface
- (2) Change the baud rate using the Web Interface of the internal Digi International module: Configuration > Serial Port > Basic Serial Settings

Troubleshooting Tips

- Disable any firewall (including Windows Firewall)
- Disable any proxy server
- Verify that the subnet mask and the gateway IP address are both compatible with your LAN
- Verify that port 2101 is enabled and not blocked by the router
- Test the connection with the docking station with the Windows ping command: Start > All Programs > Accessories > Command Prompt (example ping 192.168.57.125)

¹ Examples: HygroLog NT docking station, HygroClip DI