



Magnetek Material Handling IMPULSE®•LINK 4.1 WDS

WDS Configurator

Instruction Manual



MAGNETEK
MATERIAL HANDLING
ELECTROMOTIVE SYSTEMS

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PRODUCT MANUAL SAFETY INFORMATION

Magnetek, Inc. (Magnetek) offers a broad range of radio remote control products, control products and adjustable frequency drives, and industrial braking systems for overhead material handling applications. This manual has been prepared by Magnetek to provide information and recommendations for the installation, use, operation and service of Magnetek's material handling products and systems (Magnetek Products). Anyone who uses, operates, maintains, services, installs or owns Magnetek Products should know, understand and follow the instructions and safety recommendations in this manual for Magnetek Products.

The recommendations in this manual do not take precedence over any of the following requirements relating to cranes, hoists and lifting devices:

- Instructions, manuals, and safety warnings of the manufacturers of the equipment where the Magnetek Products are used,
- Plant safety rules and procedures of the employers and the owners of facilities where the Magnetek Products are being used,
- Regulations issued by the Occupational Health and Safety Administration (OSHA),
- Applicable local, state or federal codes, ordinances, standards and requirements, or
- Safety standards and practices for the overhead material handling industry.

This manual does not include or address the specific instructions and safety warnings of these manufacturers or any of the other requirements listed above. It is the responsibility of the owners, users and operators of the Magnetek Products to know, understand and follow all of these requirements. It is the responsibility of the owner of the Magnetek Products to make its employees aware of all of the above listed requirements and to make certain that all operators are properly trained. **No one should use Magnetek Products prior to becoming familiar with and being trained in these requirements.**

WARRANTY INFORMATION

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1 Introduction

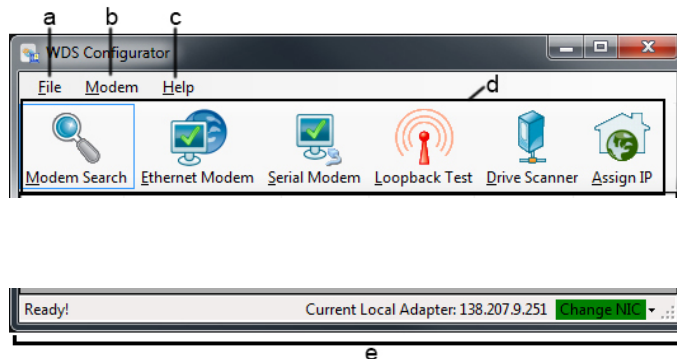
The WDS Configurator is a tool used to set up and troubleshoot your Wireless Diagnostic System (WDS) setup. This allows you to:

1. Search for the WDS Base units installed on your network.
2. Configure your WDS Base and Remote unit settings.
3. Test that your modems are configured properly.
4. Scan the Magnetek drive on your network.
5. Change the assigned IP Address of the Base Units on your network.

2 User Interface

2.1 Menus and Navigation

Supported functions can be accessed by the main toolbar, the top menu bar, or through shortcut keys.



- a. File Menu
Exit option.
- b. Modem Menu
Contains identical items as the toolbar, along with shortcuts.
- c. Help Menu
About Box option which shows the current version of the application.
- d. Toolbar
Allows switching between functions.
- e. Status Bar
Provides indication of the active function on the left, as well as the IP address(es) of the local machines, Network Interface Cards (NIC), or the IP address of the selected NIC.

Function Overview:

Modem Search (CTRL-M)

Provides the ability to Scan for Ethernet Modems and Drive Ethernet Communication Cards (such as EtherNet/IP, ProfiNet, Modbus TCP, etc.).

Ethernet Modem (CTRL-E)

Provides functionality to read and write the radio settings for an Ethernet Modem (aka Base Unit).

Serial Modem (CTRL-S)

Provides functionality to read and write the radio settings for a Serial Modem (aka Remote Unit).

Loopback Test (CTRL-L)

Provides functionality to test whether the Ethernet Modem and Serial Modem are configured to communicate with each other.

Drive Scanner (CTRL-D)

Provides functionality to test whether the system is set up correctly. The PC connects to the Ethernet Modem, which communicates to the Serial Modem over RF and finally to the drive(s) via RS485.

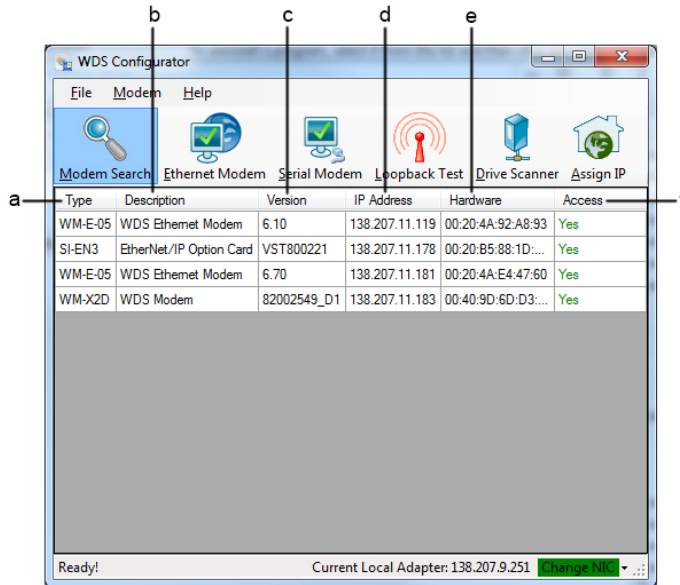
Assign IP (CTRL-A)

Provides functionality to change the IP Address of an Ethernet Modem.

2.2 Modem Search

The Modem Search sends a broadcast message, querying for all WDS Base Units and industrial communication cards. All devices found on the network will return their type, IP Address, Version and MAC Address, and are then added to the list.

- Upon selecting a row, the MAC Address and IP Address fields in other tabs are updated with the selected device.



- Type
Displays the Base Unit type (listed below):
 - WM-E-01
 - WM-E-02
 - WM-E-03
 - WM-E-04
 - WM-E-05
 - WM-X2D
 - WM-T54
 - SI-EN3
 - SI-EM3
 - SI-EP3
- Description
Displays the Base Unit description (listed below):
 - WDS Ethernet Modem (WM-E-01 through WM-E-05)
 - WDS Modem (WM-X2D and WM-T54)
 - EtherNet/IP Option Card (SI-EN3)
 - Modbus TCP option card (SI-EM3)
 - ProfiNet option card (SI-EP3)
- Version
Displays the modem version.
- IP Address
The IP Address of the associated modem.
- Hardware Address
The MAC Address of the associated modem
- Access

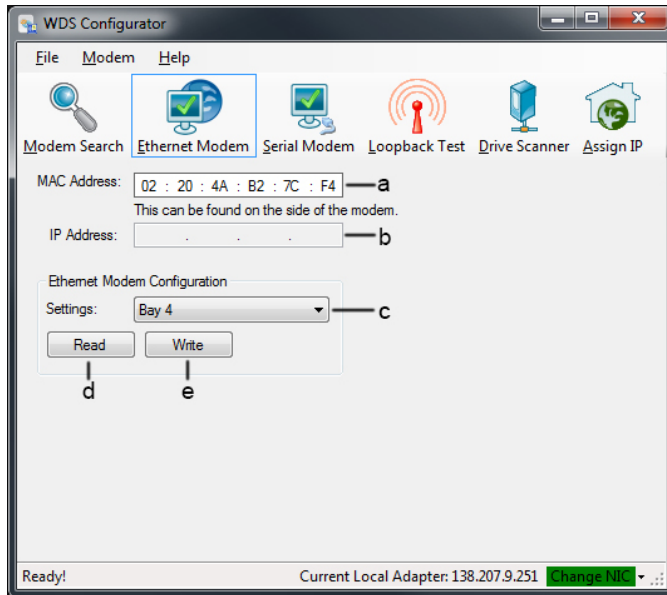
Yes (green): The WDS Ethernet modem is in the same IP address range as the local machine.

No (red): The WDS Ethernet modem is NOT in the same IP address range as the local machine. Either change the IP address of the local machine, or assign an IP address to the WDS Ethernet mode that is in the same range as the local machine (see **Section 2.7: Assign IP**).

2.3 Ethernet Modem Configuration

The Ethernet Modem Configuration tab is used to configure the Ethernet Modem RF parameters.

- If the user changes the settings on Serial, they will change automatically on the Ethernet toolbar menu as well.
- The Generic profile is an item within the “Settings” list.



- a. MAC Address
Address as listed on the selected Ethernet Modem.
- b. IP Address
Current IP address of the selected Modem.
- c. Settings ⁽¹⁾
The settings are the same as the “Serial Modem,” with one exception. The Baud rate will not be changed for the Ethernet Modem.

Available selections are:

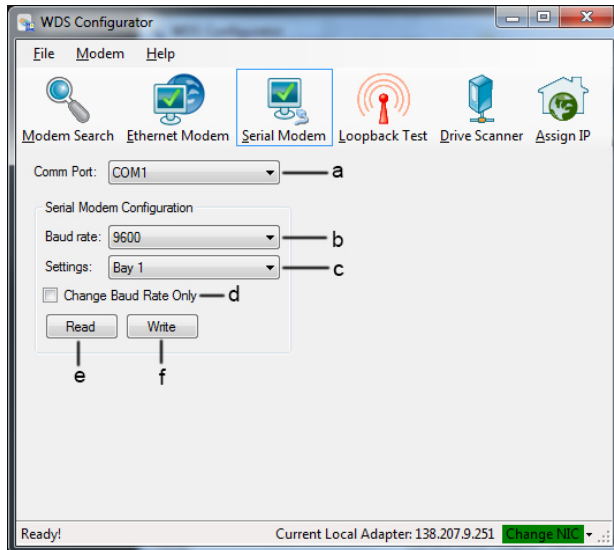
- Bay 1
 - Bay 2
 - Bay 3
 - Bay 4
 - Bay 5
 - Bay 6
 - Bay 7
 - Bay 8
 - Bay 9
 - Bay 10
 - Bay 11
 - Bay 12
 - Bay 13
 - Bay 14
 - Bay 15
 - Generic (Default)
- d. Read
Connects to the device with the specified MAC Address or IP Address and reads the settings and populates the interface accordingly.
 - e. Write
Connects to the device with the specified MAC Address or IP Address and writes the selected settings to the device.

(1) When the settings are changed in either the Ethernet Modem or the Serial Modem, the selected settings will be copied to the other tab automatically.

2.4 Serial Modem Configuration

The Serial Modem tab is used to configure the Serial Modem RF parameters.

- If the user changes the settings on Serial, they will change automatically on the Ethernet toolbar menu as well.
- The Generic profile is an item within the “Settings” list.



- a. Comm Port
Populates with available Comm ports in the local machine.
- b. Baud rate
9600 and 19200 are the only baud rates we currently support.
- c. Settings ⁽¹⁾
These refer to a group of parameters within the RF Module for frequency selection and network control.

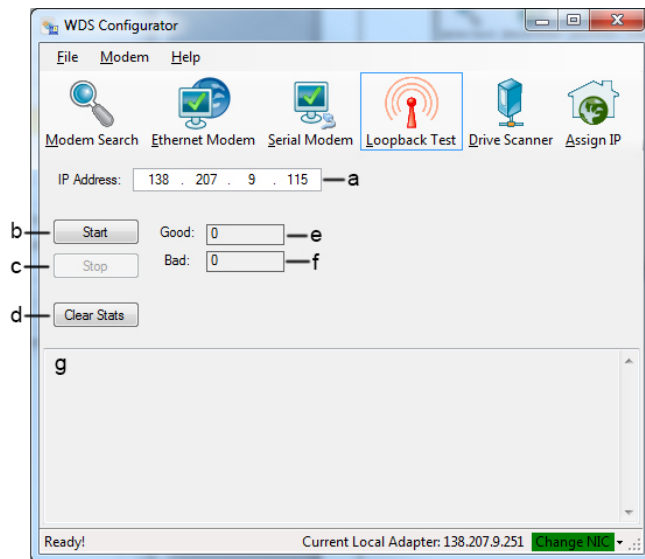
Available selections are:

- Bay 1
 - Bay 2
 - Bay 3
 - Bay 4
 - Bay 5
 - Bay 6
 - Bay 7
 - Bay 8
 - Bay 9
 - Bay 10
 - Bay 11
 - Bay 12
 - Bay 13
 - Bay 14
 - Bay 15
 - Generic (default)
- d. Change Baud Rate Only
Checking this box forces the Write operation to only change the Baud rate of the serial modem.
 - e. Read
Connects to the device on the selected Comm Port, reads the settings, and populates the interface accordingly.
 - f. Write
Connects to the device on the selected Comm Port and writes the selected settings to the device.

(1) When the settings are changed in either the Ethernet modem or the serial modem, the selected settings will be copied to the other tab automatically.

2.5 Loopback Test

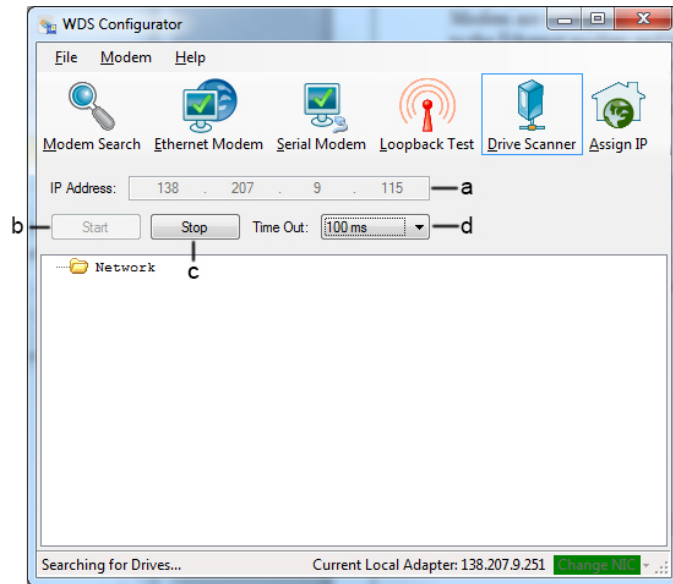
The purpose of the Loopback Test is to determine whether the Ethernet Modem and Serial Modem are configured to communicate with each other. When Start is pressed, the PC connects to the Ethernet modem and begins sending a message every second. If the Ethernet and Serial modems are configured to communicate with each other, the Serial modem will receive the messages and echo them back. If the Loopback adapter is connected to the Serial modem, every message received is transmitted back to the Ethernet modem and the Good counter will increment.



- a. IP Address
Address of the Ethernet Modem to connect to.
- b. Start
Begins the loopback function.
- c. Stop
Closes the connection to the specified device and stops sending the loopback message.
- d. Clear Stats
Clears the counters and status box.
- e. Good
When a response is returned from the Serial Modem after sending a loopback message, the Good counter is incremented.
- f. Bad
If no response is sent within the allotted time (1 second), the Bad counter is incremented.
- g. Textbox
Every message that is read is displayed in the textbox. Valid received messages will display:
"ABCDEFGHIJKLMNOPQRSTUVWXYZ"

2.6 Drive Scanner

The purpose of the Drive Scanner is to continuously cycle through all 31 Modbus RTU slave addresses and identify active drives on the network.

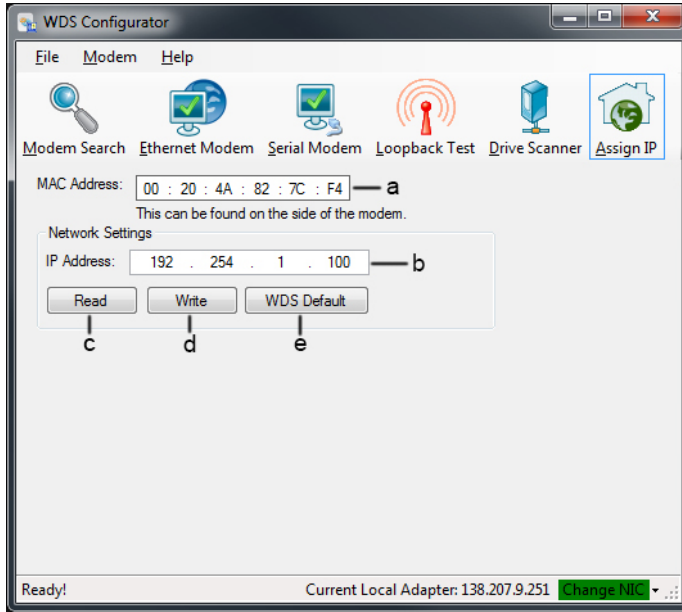


- a. IP Address
Address of the Ethernet Modem to connect to.
- b. Start
Begins the scan function.
- c. Stop
Closes the connection to the specified device and stops scanning.
- d. Time Out
Specifies the amount of time to wait for a message response. Due to possible Ethernet traffic/delays, this is configurable between 100 ms and 1 second.
 - 100 ms (default)
 - 250 ms
 - 500 ms
 - 1 sec

2.7 Assign IP

This function allows the setting of the IP Address of an Ethernet Modem.

- To enable DHCP, set the IP Address to 0.0.0.0



- MAC Address
Address as listed on the Ethernet Modem.
- IP Address
Destination IP Address to set.
- Read
Reads the IP Address from the target device and updates the UI as appropriate.
- Write
Connects to the device with the specified MAC Address and writes the IP Address to it.
- WDS Default
Fills the Magnetek default IP Address (169.254.1.100) into the IP Address text box.

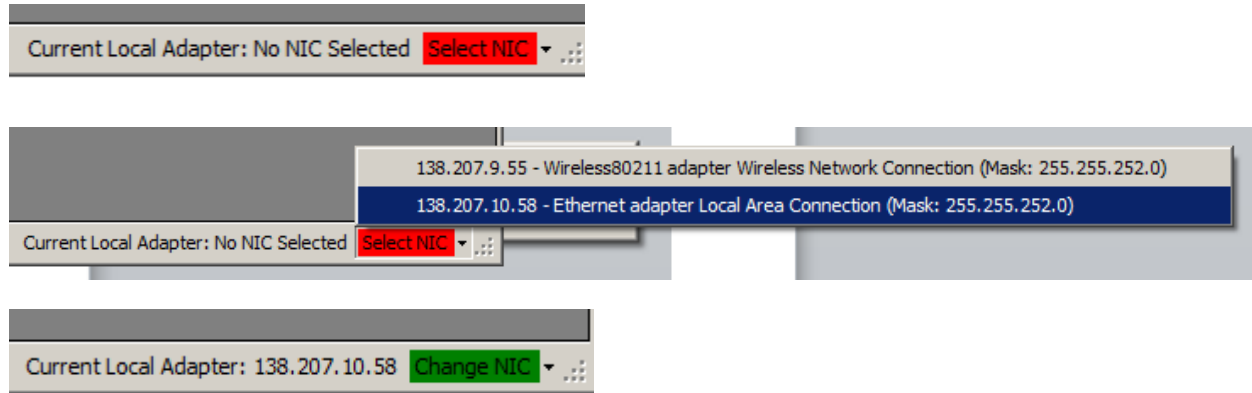
NOTE: WDS Default does not send the IP Address change request. Click "Write" to set the WDS Ethernet modem with the Magnetek default.

3 Using the WDS Configurator

Step 1: Select NIC Connection

In the lower right hand corner of the Status Bar, select the NIC card that will be connected to the WDS Base Modem.

The software will automatically search for the WDS Base Modem(s) using the selected network adapter.



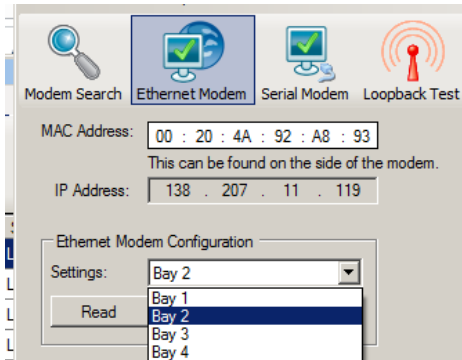
Step 2: Modem Search

Highlight the appropriate WDS Base Modem by verifying that the Hardware Address is correct, and the Access field says "Yes." If the Access field says "No", the IP Address of the Local Machine will need to be changed to match the IP Address range of the WDS Base Modem, or the IP Address of the WDS Base Modem needs to be changed (see **Step 7: Assign IP Address**).

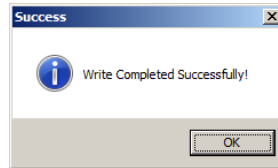
Type	Description	Version	IP Address	Hardware Address	Access
WM-E-05	WDS Ethernet Modem	6.10	138.207.11.119	00:20:4A:92:A8:93	Yes
SI-EN3	EtherNet/IP Option Card	VST800221	138.207.11.178	00:20:85:00:1D:3D	Yes
WM-E-05	WDS Ethernet Modem	6.70	138.207.11.181	00:20:4A:92:A7:60	Yes
WM-TS4 W RJ	WDS Modem	82001592_C	138.207.11.20	00:40:9D:83:91:83	Yes

Step 3: Ethernet Modem Configuration

Verify that the correct Hardware Address is shown, then select the Bay Number you want to assign to the selected WDS Base Modem (Bay 2, in this example) from the “Settings” list box.



Click on the “Write” button. The following message will be displayed.



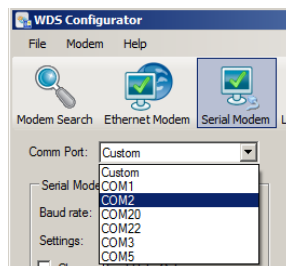
Step 4: Serial Modem Configuration

Turn the power to the WDS Remote Modem OFF and change the DIP switches to RS232 communications and cycle power.

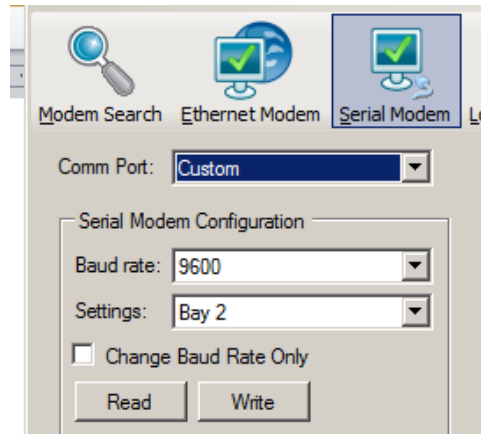


Connect the PC to the WDS Serial Modem with a DB9 serial cable.

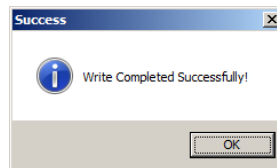
Select the appropriate Communication Port (COM Port) on the local machine from the list box.



Select the appropriate Baud Rate and Settings (9600 Baud and Bay 2, for this example):



Click "Write." The following message will be displayed.



Step 5: Loopback Test

Remove the DB9 serial cable and connect the Loopback Adapter into the RS232 port on the WDS Remote Modem.



Verify that the local machine is connected to the WDS Base Modem.

Click the "Start" button.

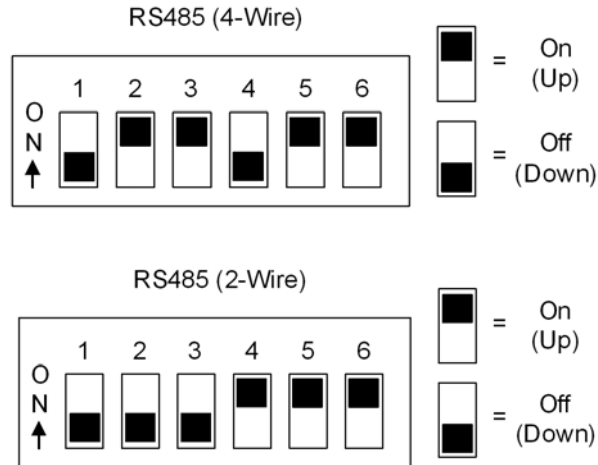
If a valid message is received, the Good count will increment, and the textbox will display:

"ABCDEFGHIJKLMNOPQRSTUVWXYZ"

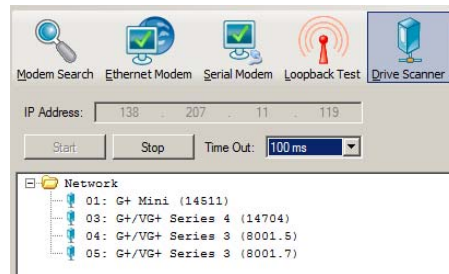
Click the "Stop" button when done.

Step 6: Drive Scanner

Turn the power to the WDS Remote Modem OFF and change the DIP switches to RS485 2 or 4-Wire communications, per your application and cycle power.



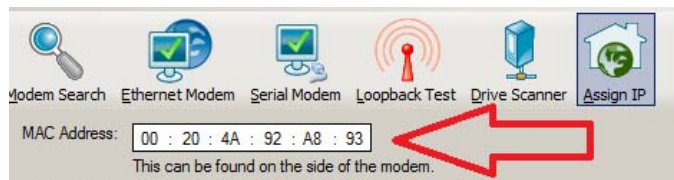
Connect the WDS Remote Unit to your drive network. Click the “Start” button and verify that all of the drives on the network appear in the list. The drive scanner verifies that the wiring and drive node address are set correctly.



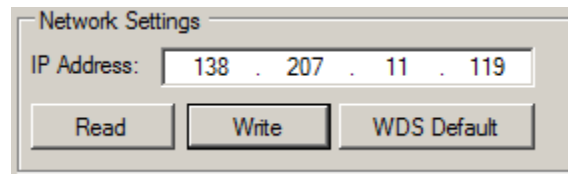
Click “Stop” when done.

Step 7: Assign IP Address

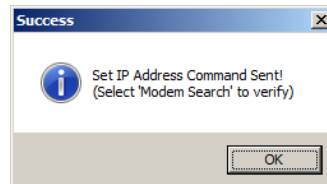
Verify the MAC address before proceeding.



Enter the IP Address you want to assign to the WDS Base Modem (138.207.11.119, for this example).



Click "Write."



Go to the Modem Search and verify that the modem's IP Address is in the list.

Appendix A: Ethernet Modem Configuration Troubleshooting

In the event that an error code is returned during an Ethernet modem configuration operation, the following table contains the possible error codes, a brief description of the code, and possible corrective actions.

Error Code	Description	Corrective Action
CE100 (Device Not Found)	The Ethernet Modem did not respond to the query to enter command mode.	<ol style="list-style-type: none"> 1. Cycle power on the Ethernet Modem and try again. 2. Restart the application and try again.
CE108 (Timed Out)	The Ethernet Modem failed to respond to a query within the given time.	<ol style="list-style-type: none"> 1. Try again. 2. Cycle power on the Ethernet Modem and try again. 3. Restart the application and try again.
CE203 (Could not open port)	The Ethernet connection could not be initiated.	<ol style="list-style-type: none"> 1. Restart the application and try again. 2. Verify that the Ethernet port is working/enabled.
CE205 (Unable to connect)	A TCP connection could not be made and the connection was aborted due to timeout or socket error.	<ol style="list-style-type: none"> 1. Ensure that the Ethernet Modem: <ol style="list-style-type: none"> a. is powered up. b. cable is connected to the local network. 2. Ping the target IP address. 3. Cycle power on the Ethernet Modem and try again. 4. Restart the application and try again.
CE209 (Connection closed by Device)	A connection had been established, but was reset pre-maturely by the target device.	<ol style="list-style-type: none"> 1. Retry. 2. Check that the cable is secure.
CE210 (Device did not respond)	While broadcasting a scan request, the target device did not respond.	<ol style="list-style-type: none"> 1. Verify that the MAC address specified matches the Ethernet modem. 2. Verify that the device appears within the "Modem Search" results list. 3. Retry.

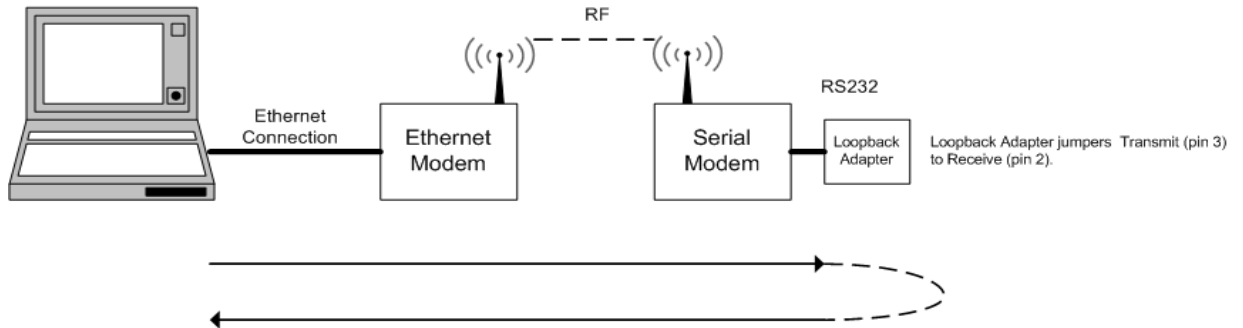
Appendix B: Serial Modem Configuration Troubleshooting

In the event that an error code is returned during a serial modem configuration operation, the following table contains the possible error codes, a brief description of the code and possible corrective actions.

Error Code	Description	Corrective Action
CE001 (Port Does Not Exist)	The communication port specified does not exist on the system.	<p>If you are unsure of the correct port number:</p> <ol style="list-style-type: none"> 1. Go to Start->Control Panel 2. Double-click on "System" 3. Select the "Hardware" tab. 4. Click on the "Device Manager" button. 5. Expand the "Ports" node. Serial port and USB-to-Serial converters will be listed as COM1, COM2, etc. <p>For Vista and Windows 7 users:</p> <ol style="list-style-type: none"> 1. Right click on "Computer" or "My Computer." 2. Select "Manage." 3. Expand the "Ports" node. Serial port and USB-to-Serial converters will be listed as COM1, COM2, etc.
CE002 (Port Is In Use)	The communication port is in use by another application.	<ol style="list-style-type: none"> 1. Close the application that has the port open and try again. <p><i>NOTE: Only one program has the ability to use a communication port at a time. When the operating system grants access of that port to a user program, that program reserves it until it lets it go. If another program requests access to it, the operating system denies access.</i></p>
CE009 (Invalid Serial Settings)	The specified serial settings are invalid.	<ol style="list-style-type: none"> 1. Restart the application and try again.
CE100 (Device Not Found)	The Serial Modem did not respond to the query to enter command mode.	<ol style="list-style-type: none"> 1. Ensure that the Serial Modem: <ol style="list-style-type: none"> a. is powered up b. DIP switches are set for RS232 communication. c. RS232 cable is connected from the PC to Serial Modem. 2. Ensure that the correct COM port is specified. 3. Reset the Serial Modem to default settings by: <ol style="list-style-type: none"> a. Unplugging the device. b. Press and hold the reset button (next to the LEDs) while powering it up. 4. Retry
CE108 (Timed Out)	The Serial Modem did not respond to queries.	<ol style="list-style-type: none"> 1. Retry 2. Check that cable is secure.

Appendix C: Loopback Test Troubleshooting

The Loopback Test is intended to verify that required settings between an Ethernet Modem and a Serial Modem match.



1. If an error code was returned, refer to the following table.

Error Code	Description	Corrective Action
CE203 (Could not open port)	The Ethernet connection could not be initiated.	<ol style="list-style-type: none"> 1. Restart the application and try again. 2. Verify that the Ethernet port is working/enabled.
CE205 (Unable to connect)	A TCP connection could not be made and the connection was aborted due to timeout or socket error.	<ol style="list-style-type: none"> 1. Ensure that the Ethernet Modem: <ol style="list-style-type: none"> a. is powered up. b. cable is connected to the local network. 2. Ping the target IP address. 3. Cycle power on the Ethernet Modem and try again. 4. Restart the application and try again.
CE209 (Connection closed by Device)	A connection had been established, but was reset prematurely by the target device.	<ol style="list-style-type: none"> 1. Retry. 2. Check that the cable is secure.

2. Ensure that the antennas are connected.
3. Ensure that the Loopback Adapter is attached to the Serial modem.
4. Ensure that the Serial Modem DIP Switches are set to the following for RS232 communication, and cycle power for settings to take effect:

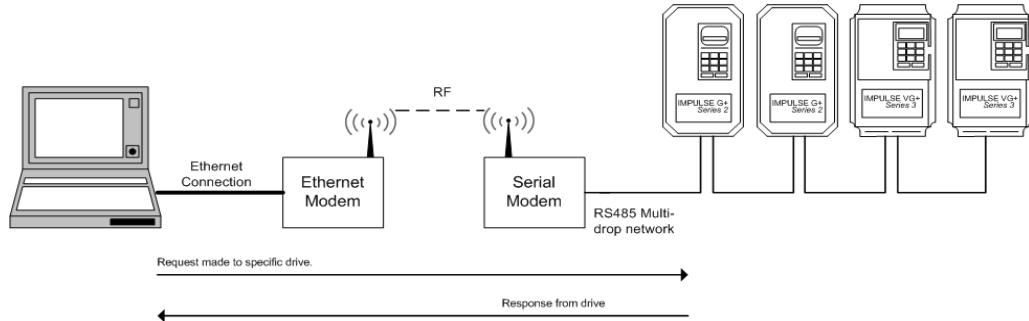


NOTE: Change DIP switches back to RS485 before connecting to the drive network.

5. Check whether another modem is being configured. If identical bays are being configured, they may be interfering with one another.
6. Re-program Serial and Ethernet Modems to the same *Communication Settings* selection, per the application guide.

Appendix D: Drive Scanner Troubleshooting

The Drive Scanner is a tool meant to assist in the verification and debugging of wiring from the Serial Modem to the drives. Once connected to the Ethernet Modem, the Scanner will continuously check all Modbus RTU nodes with slave addresses within the range (01H ~ 1FH).



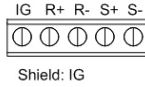
1. If an error code was returned, refer to the following table.

Error Code	Description	Corrective Action
CE203 (Could not open port)	The Ethernet connection could not be initiated.	<ol style="list-style-type: none"> 1. Restart the application and try again. 2. Verify that the Ethernet port is working/enabled.
CE205 (Unable to connect)	A TCP connection could not be made and the connection was aborted due to timeout or socket error.	<ol style="list-style-type: none"> 1. Ensure that the Ethernet Modem: <ol style="list-style-type: none"> a. is powered up. b. cable is connected to the local network. 2. Ping the target IP address. 3. Cycle power on the Ethernet Modem and try again. 4. Restart the application and try again.
CE209 (Connection closed by Device)	A connection had been established, but was reset prematurely by the target device.	<ol style="list-style-type: none"> 1. Retry. 2. Check that the cable is secure.

2. Ensure that the antennas are connected.
3. Ensure the RS485 wiring is correct.
4. Ensure that the Drive(s) are set up correctly (refer to the *Application Guide*).
 - a. IMPULSE G+/VG+ Series 2, 3, and 4
 - i. H5-01 = Slave Address
 - ii. H5-02 = Baud Rate
 - b. Power must be cycled on the drive(s) for communication setting changes to take affect.
5. Ensure that the Serial Modem DIP Switches are set to RS485, per the drawing (see **Appendix G**).
6. Ensure that only the last drive in the chain has the termination resistor set.
7. Check whether another modem is being configured. If identical bays are being configured, they may be interfering with one another.

Appendix E: Quick Reference

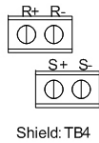
G+/VG+ Series 4



Parameter	Typical Setting	
Modbus Address	H5-01	(01 ~ 1F)
Baud Rate	H5-02	3: 9600 Baud 4 = 19200
Parity Select	H5-03	0: No Parity

Note:
3 = 9600
4 = 19200

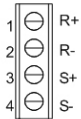
G+/VG+ Series 3



Modbus Address	H5-01	(01 ~ 1F)
Baud Rate	H5-02	3: 9600 Baud 4 = 19200
Parity Select	H5-03	0: No Parity

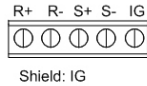
Note:
3 = 9600
4 = 19200

G+/VG+ Series 2 (SI-K2 option card)



Modbus Address	H5-01	(01 ~ 1F)
Baud Rate	H5-02	3: 9600 Baud
Parity Select	H5-03	0: No Parity

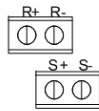
G+ Mini



Modbus Address	H05.01	(01 ~ 1F)
Baud Rate	H05.02	03: 9600 Baud 04 = 19200
Parity Select	H05.03	00: No Parity

Note:
03 = 9600
04 = 19200

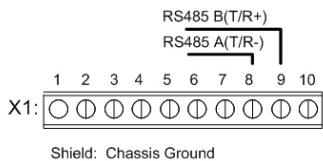
P3 Series 2



Modbus Address	n253	(01 ~ 1F)
Baud Rate	n254	2: 9600 Baud 3 = 19200
Parity Select	n255	2: No Parity

Note:
2 = 9600
3 = 19200

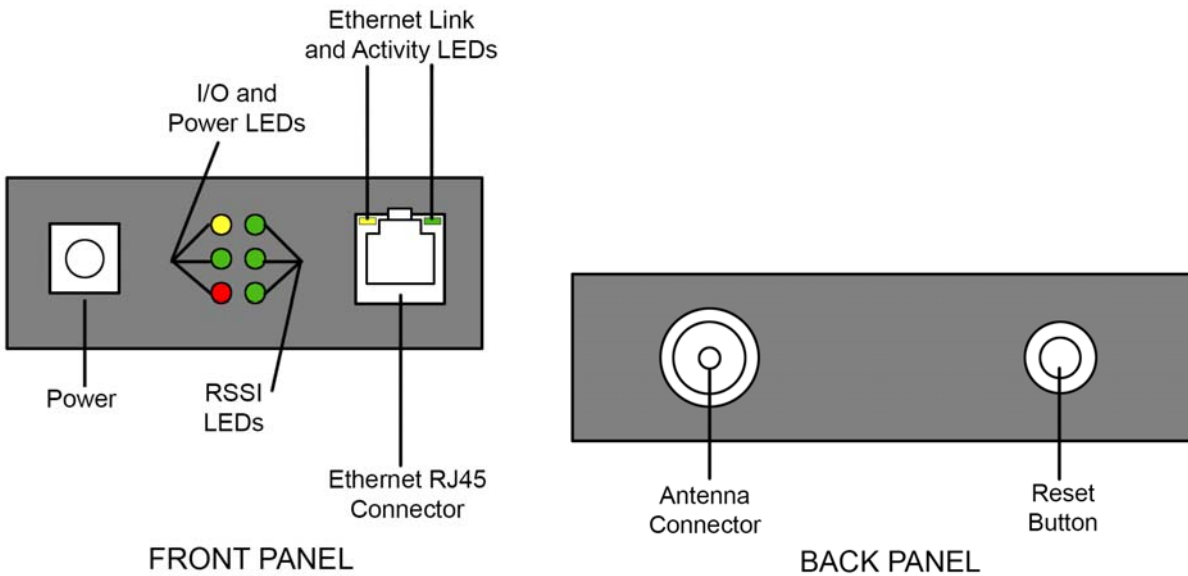
OmniPulse DDC and MagnePulse DMC



Baud Rate	G16	9600
RS232/RS485 Select	G17	RS485
Serial Format	G18	8N1
Modbus Address	G19	(1 ~ 31)

Appendix F: System Status LEDs

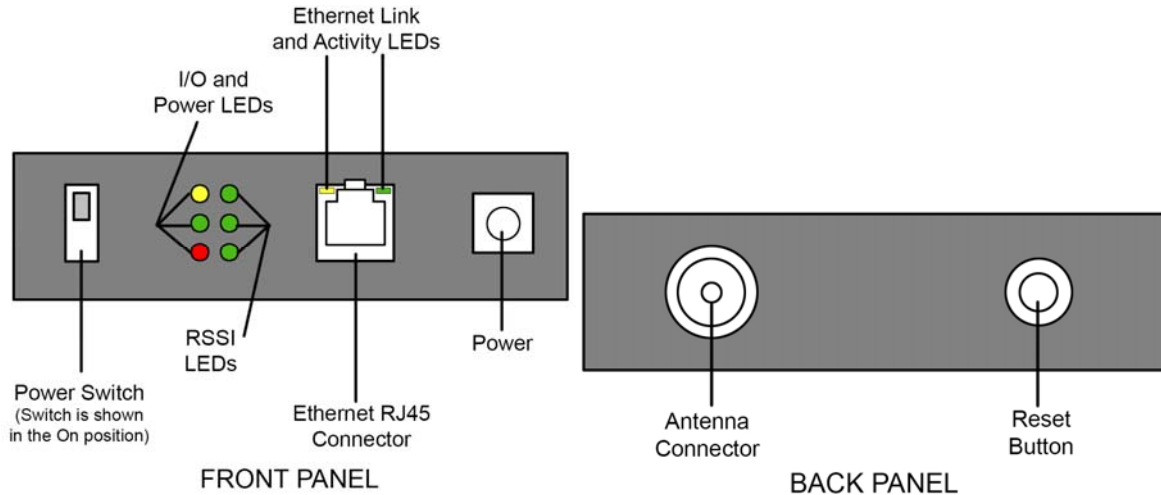
Model X2 Ethernet Modem (WDS Base Unit) LEDs and Buttons (144-17648)



ConnectPort X2 LEDs and Buttons

LED/Button	Color and Light Pattern	Description
I/O and Power		The LEDs visualize gigantic status information and indicate module activity as follows:
	Yellow or Green (top LED)	Serial Data Out (to host)
	Green (middle LED)	Serial Data In (from host)
	Red or Green (bottom LED)	Power: Indicates both power to the interface board and the network association status for the RF module in the interface board.
	Solid Red	Ethernet modem powered and not associated to a WDS network.
	Blinking Red	Ethernet modem has associated to a WDS network.
RSSI LEDs	Green	RSSI LEDs indicate the amount of fade margin present in an active wireless link. Fade margin is defined as the difference between the incoming signal strength and the module's receiver sensitivity. <ul style="list-style-type: none"> • 3 LEDs On: Very Strong Signal (> 30 dB fade margin) • 2 LEDs On: Strong Signal (> 20 dB fade margin) • 1 LED On: Moderate Signal (> 10 dB fade margin) • 0 LEDs On: Weak Signal (< 10 dB fade margin)
Ethernet Link LED	Solid yellow	
Ethernet Activity LED	Blinking Green	
Reset button	--	Single press: Performs the equivalent of a power cycle. Press and hold: Resets device configuration settings to factory defaults (factory reset).

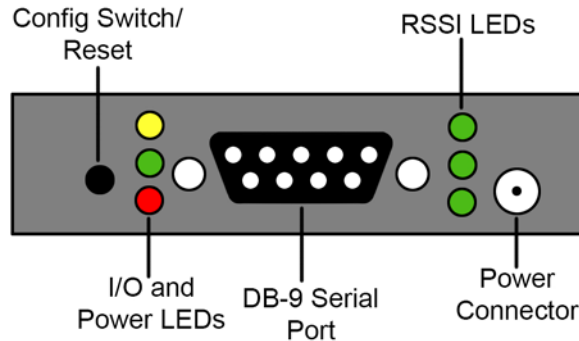
Model XT Ethernet Modem (WDS Base Unit) LEDs and Buttons (144-12229)



ConnectPort XT LEDs and Buttons

LED/Button	Color and Light Pattern	Description
I/O and Power		The LEDs visualize gigantic status information and indicate module activity as follows:
	Yellow (top LED)	Serial Data Out (to host)
	Green (middle LED)	Serial Data In (from host)
	Red (bottom LED)	Power: Indicates both power to the interface board and the network association status for the RF module in the interface board.
	Solid Red	Ethernet modem powered and not associated to a WDS network.
	Blinking Red	Ethernet modem has associated to a WDS network.
RSSI LEDs	Green	RSSI LEDs indicate the amount of fade margin present in an active wireless link. Fade margin is defined as the difference between the incoming signal strength and the module's receiver sensitivity. <ul style="list-style-type: none"> • 3 LEDs On: Very Strong Signal (> 30 dB fade margin) • 2 LEDs On: Strong Signal (> 20 dB fade margin) • 1 LED On: Moderate Signal (> 10 dB fade margin) • 0 LEDs On: Weak Signal (< 10 dB fade margin)
Ethernet Link LED	Solid yellow	
Ethernet Activity LED	Blinking Green	
Reset button	--	Single press: Performs the equivalent of a power cycle. Press and hold: Resets device configuration settings to factory defaults (factory reset).
Power Connector	--	7-28 VDC power connector (center positive, 5.5/2.1mm)

Model XT RS-232/485 Serial (WDS Remote Unit) Modem (144-12226)



Remote Modem (Model X2) LEDs and Buttons

LED/Button	Color and Light Pattern	Description
I/O and Power		The LEDs visualize gigantic status information and indicate module activity as follows:
	Yellow (top LED)	Serial Data Out (to host)
	Green (middle LED)	Serial Data In (from host)
	Red or Green (bottom LED)	Power: Indicates both power to the interface board and the network association status for the RF module in the interface board.
RSSI LEDs	Green	RSSI LEDs indicate the amount of fade margin present in an active wireless link. Fade margin is defined as the difference between the incoming signal strength and the module's receiver sensitivity. <ul style="list-style-type: none"> • 3 LEDs On: Very Strong Signal (> 30 dB fade margin) • 2 LEDs On: Strong Signal (> 20 dB fade margin) • 1 LED On: Moderate Signal (> 10 dB fade margin) • 0 LEDs On: Weak Signal (< 10 dB fade margin)
Serial Port	--	Standard female DB-9 (RS-232) connector. This connector can also be used for RS-485 and RS-422 connections.
Config (Configuration) Switch	--	The Config Switch provides an alternate method for entering into Command Mode. To enter Command Mode at the module's default RF data rate, hold the Configuration Switch down for two seconds. See Appendix G .
Reset button	--	Single press: Performs the equivalent of a power cycle. Press and hold: Resets device configuration settings to factory defaults (factory reset).
Power Connector	--	7-28 VDC power connector (center positive, 5.5/2.1mm)

Appendix G: Model XT Serial Modem (WDS Remote Unit) Switch Settings

The following are the DIP Switch settings for the Remote Unit. Power must be cycled for the changes to take effect.

Impulse Link DIP Switch Settings

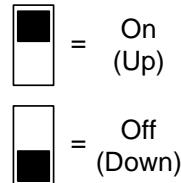
(Switch settings are applied only while powering on.)

= On (up)
 = Off (Down)

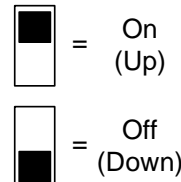
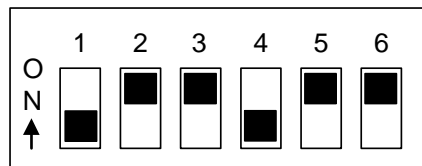
Serial Interface Switches 1 & 2	Standard Factory Default	Omnipulse DDC Factory Default
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 = RS-232 </div> <div style="text-align: center;"> <input type="checkbox"/> 5 <input checked="" type="checkbox"/> 6 = Multipoint - Base </div> </div>	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <input type="checkbox"/> 3 <input type="checkbox"/> 4 = 2-wire RS-485 (Optional) </div> <div style="text-align: center;"> <input type="checkbox"/> 5 <input type="checkbox"/> 6 = Multipoint - Remote </div> </div>	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <input type="checkbox"/> 1 <input type="checkbox"/> 2 = RS-485/422 Termination </div> <div style="text-align: center;"> <input type="checkbox"/> 3 <input type="checkbox"/> 4 = 2-wire RS-485 Termination </div> </div>
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 = 4-wire RS-485/422 </div> <div style="text-align: center;"> <input type="checkbox"/> 5 <input type="checkbox"/> 6 = Point-Point </div> </div>	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <input type="checkbox"/> 3 <input checked="" type="checkbox"/> 4 = 4-wire RS-485 Termination </div> <div style="text-align: center;"> <input type="checkbox"/> 5 <input type="checkbox"/> 6 = User Defined </div> </div>	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 = Restore Defaults </div> <div style="text-align: center;"> <input type="checkbox"/> 3 <input type="checkbox"/> 4 = None </div> </div>
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <input type="checkbox"/> 1 <input type="checkbox"/> 2 = Not Used </div> <div style="text-align: center;"> <input type="checkbox"/> 5 <input type="checkbox"/> 6 = Not Used </div> </div>		

Magnetek P/N 140-10426

RS232



RS485 (4-Wire)



RS485 (2-Wire)

