HARSCO RAIL

www.harscorail.com

SERVICE BULLETIN

MAINTENANCE OF WAY EQUIPMENT

DATE: 5-29-2013 **BULLETIN NO:** 13-004B

TITLE: CONFIGURING RADIO FREQUENCY ZONES ON DRONE AND LEAD MACHINE PRODUCT LINES

RATING:

- ☐ **DIRECTIVE** (Action Is Required)
- ☐ **ALERT** (Potential Problem)
- ☒ **INFORMATION** (Action Is Optional)
- ☐ **PRODUCT IMPROVEMENT** (Enhance Product)

PRODUCT SERIES / MODEL: Drone Tamper or Anchor Adjuster and Lead Machine

SERIAL NO: All of the Above Drones and Lead Machine Models

SUMMARY: Sometimes it may be necessary to limit both the Drone and Lead Machine communication frequency to allow other 900 - 930 MHz communication systems operating in close proximity to the Drone and Lead Machine to communicate in the same geographical area. These other 900 - 930 Mhz communication systems may experience interruptions in service if the frequencies are close.

OPERATIONAL IMPACT: See the attached Instructional Guide to limit the frequency transmission zones in the 900 - 930Mhz frequency range on both the Drone and Lead Machine if the need arises.

ACTION: This action should only be taken if potential interference issues are identified and must be performed on both the Drone and Lead machine to allow all 900 - 930 MHz systems to operate in the same area. If desired, the frequencies can be reset once out of the geographical area of concern.

CONTACT: If you have any questions or if we can be of any service, please contact:

Harsco Rail Service Department
Columbia, SC Facility
(803) 822-7546

SAFETY INFORMATION

■ **FOLLOW APPLICABLE RAILROAD LOCKOUT - TAGOUT PROCEDURE TO REMOVE MACHINE FROM ALL ENERGY SOURCES. FAILURE TO COMPLY COULD RESULT IN SEVERE BODILY INJURY.**

CONFIGURING RADIO FREQUENCY ZONES ON DRONE PRODUCT LINE

1. Sometimes it may be necessary to limit both the Drone and Lead Machine communication frequency to allow other 900 - 930 MHz communication systems operating in close proximity to the Drone and Lead Machine to communicate in the same geographical area. These other 900 - 930 Mhz communication systems may experience interruptions in service if the frequencies are close.

2. See the attached Instructional Guide to limit the frequency transmission zones in the 900 - 930Mhz frequency range on both the Drone and Lead Machine if the need arises.

3. This action should only be taken if potential interference issues are identified and must be performed on both the Drone and Lead machine to allow all 900 -930 MHz systems to operate in the same area. If desired, the frequencies can be reset once out of the geographical area of concern.

4. **Important:** All radios operating in tandem must be re-configured to disable the frequency zones causing interference with the other radio equipment. For example, if a Drone Tamper is joined with a Mark IV Lead Tamper, then the radios on both machines must be configured the same.

5. The procedure to limit the communication frequency is the same on both the Drone and Lead Machine.

415 North Main Street
Fairmont, MN
56031-1837
Tel: (507) 235-3361
Fax: (507) 235-7370

2401 Edmund Road, Box 20
Cayce-West Columbia, SC
29171-0020
Tel: (803) 822-9160
Fax: (803) 822-7471

200 South Jackson Road
Ludington, MI
49431
Tel: (231) 843-3431
Fax: (231) 843-1644

Printed In U.S.A.

HARSCO RAIL

FREEWAVE Wireless Data Transceiver

Configuring Radio Frequency Zones

For the FreeWave HTP-900RE

Wireless Data Transceiver on the

HARSCO RAIL

Drone Tamper or Anchor Adjuster and Lead Machine

Table of Contents

Introduction

This document covers how to configure the active radio zones (channel frequency ranges) used by the FreeWave HTP-900RE wireless data transceiver.

This document lists the equipment necessary to configure the transceiver, as well as the steps required to perform such configuration using widely available tools.

This configuration is necessary to eliminate the usage of channels that may be in sporadic use by other radio equipment to prevent interference. Such interference may hinder operation of other devices using the same range of radio frequencies.

An example is provided to demonstrate how to change the frequency zone configuration of the wireless data transceiver. In this example, a single frequency zone will be disabled, and it will subsequently not be used when the transceiver auto-detects which frequency zone to use during frequency hopping. The zones may subsequently be changed as needed to rectify interference or other operational issues to address field conditions.

Important: All radios operating in tandem must be re-configured to disable the frequency zones causing interference with the other radio equipment. For example, if a Drone Tamper is joined with a Mark IV Lead Tamper, then the radios on both machines must be configured the same.

The procedure to limit the communication frequency is the same on both the Drone and Lead Machine.

Hardware Setup

Hardware Requirements

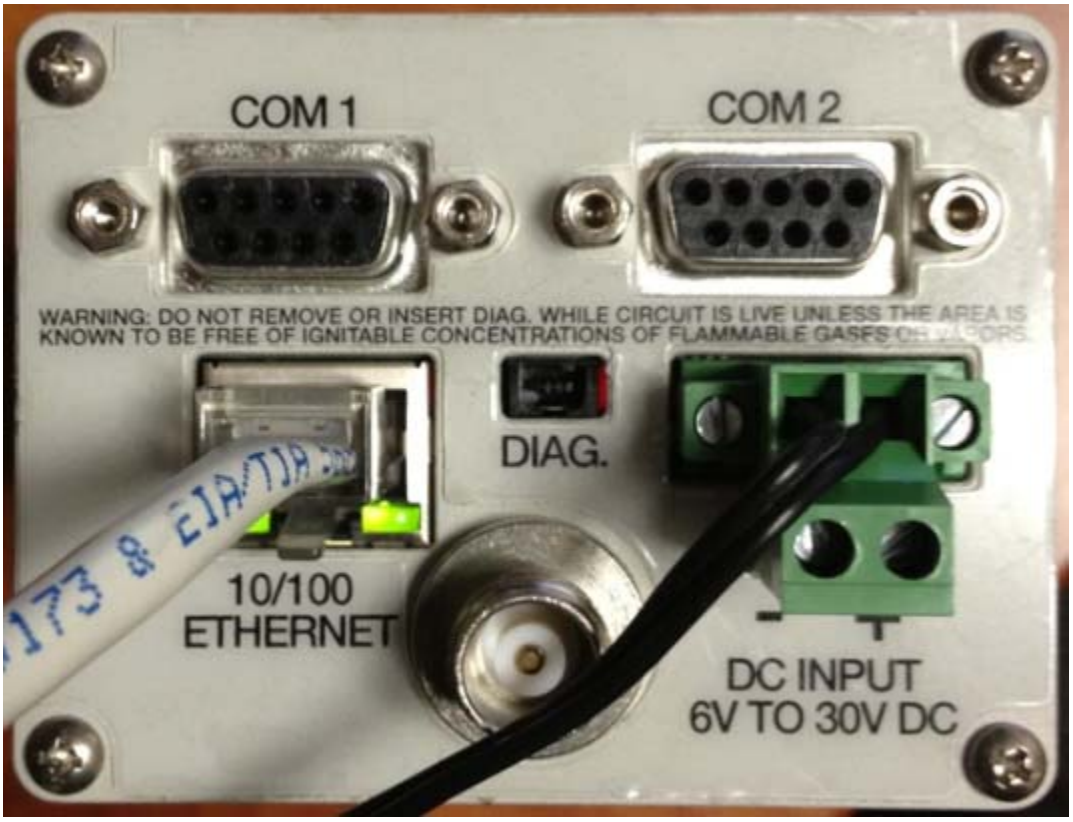
- Laptop with Ethernet port (RJ45 socket) – Windows XP/Windows 7 OS.
- FreeWave HTP-900RE Wireless Data Transceiver (Harsco P/N 4018386)
- Cat. 5 patch cable (ethernet cable)
- 24 volt power supply
- 2 strand power cable
- 5.08 mm plug

Preparing the Network

1.) Attach the 5.08 mm plug to the power cable, and connect the power supply to the back of the transceiver. The polarity of the transceiver power is marked below the power socket.

2.) Connect the ethernet cable from the transceiver to the laptop.

3.) Power on the laptop and the transceiver.



HTP-900RE Connections

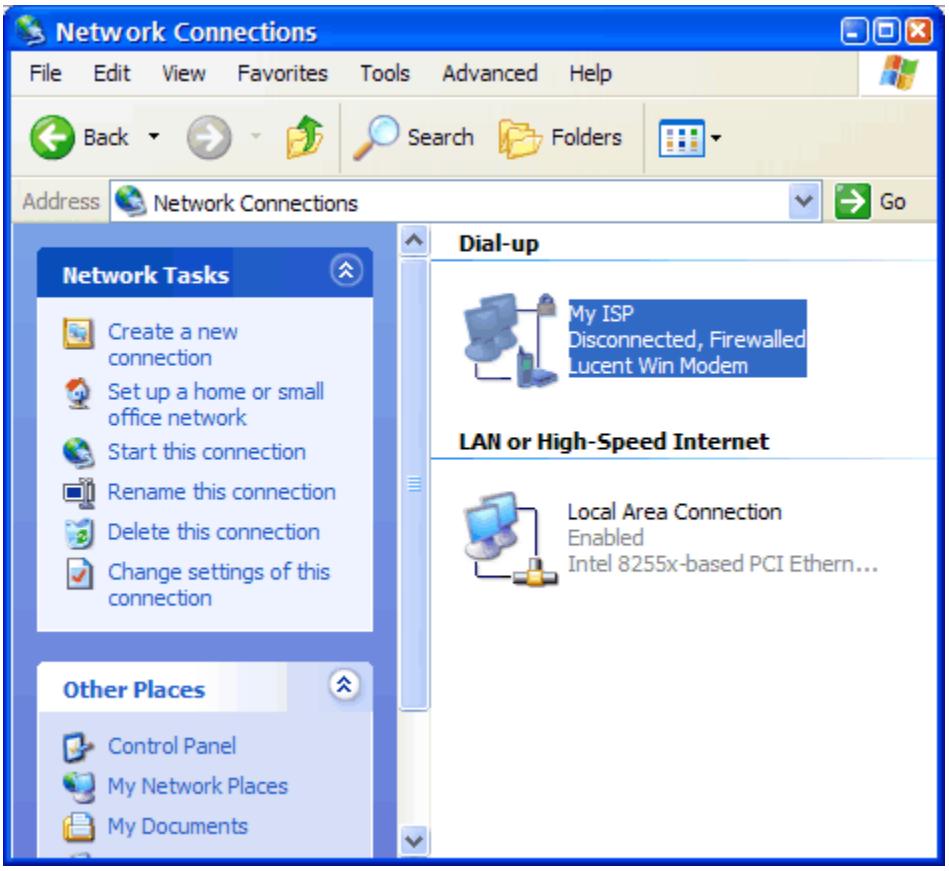
Configuring the Laptop IP Address

The following instructions require administrator access to the laptop. If you do not have administrator privileges, then they must be given by a user with administrator access to the laptop.

First, configure the IP address of the laptop to connect to the web server on the FreeWave wireless transceiver. If the laptop has Windows 7, skip the following Windows XP section and go to page 7.

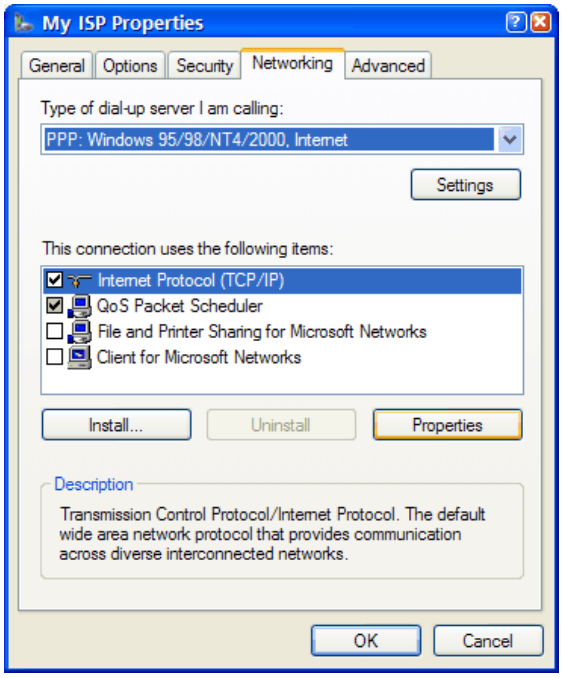
If using Windows XP:

1) Open the control panel “Network Connections”.



2) Right click “Local Area Connection”, and choose “Properties” from the context menu.

3) Select the “Networking” tab.

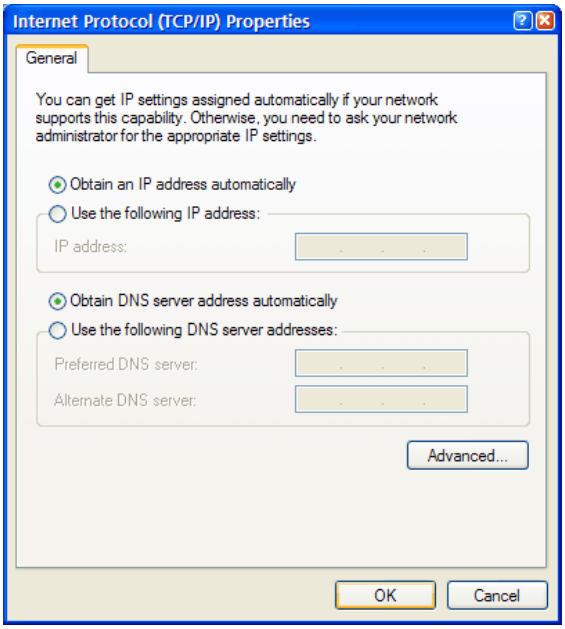


4) Select "Internet Protocol (TCP/IP)" from the list, and then click the "Properties" button.

5) Select the "Use the following IP address:" radio button, then enter the following IP address:

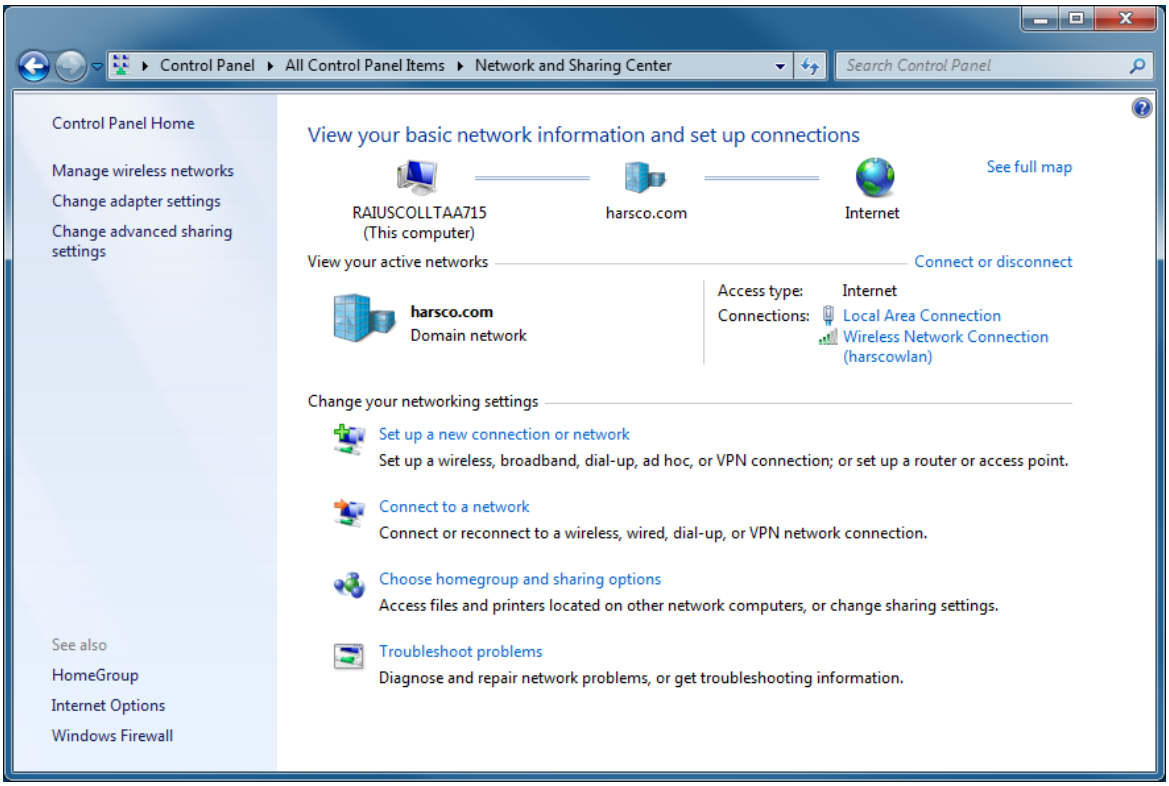
   192.168.111.250

   You may choose to open the "Advanced…" dialog to enter the subnet mask 255.255.255.0, and then click "OK":

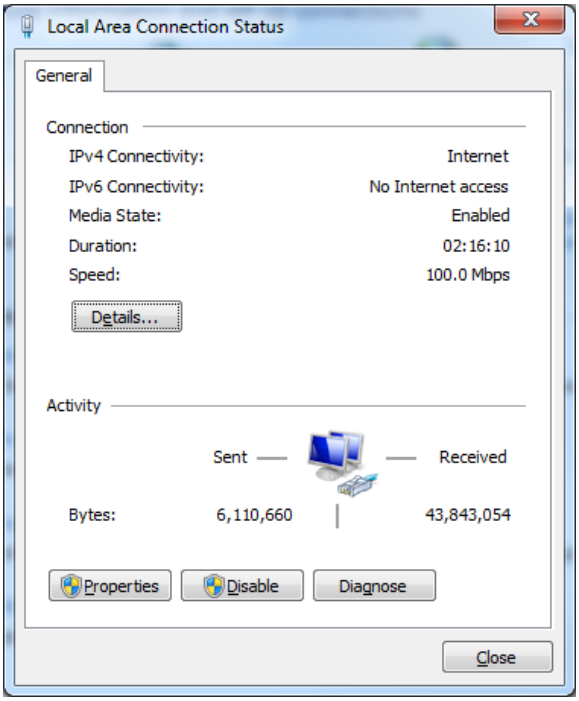


If using Windows 7:

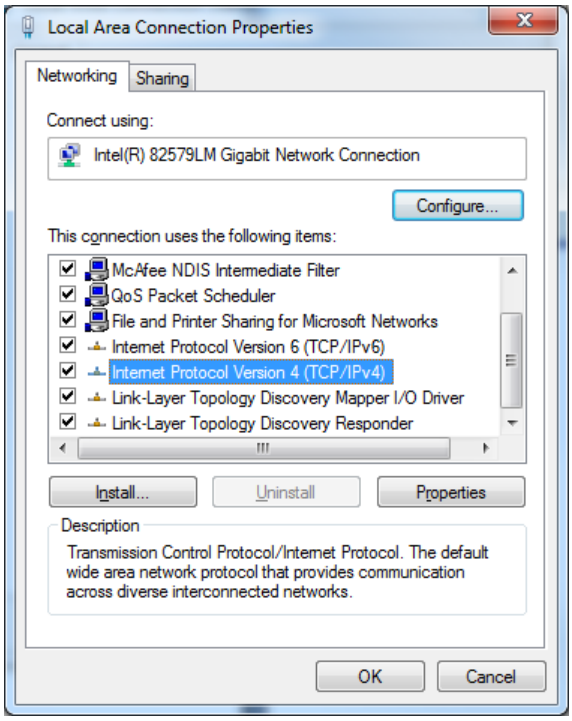
1) Open the control panel "Network and Sharing Center".



2) Left click "Local Area Connection", and click "Properties"



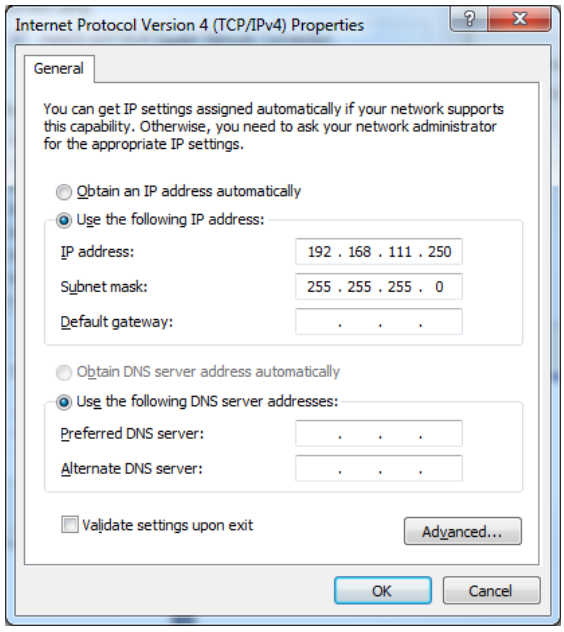
3) Select "Internet Protocol Version 4 (TCP/IPv4)" from the list, and then click the "Properties" button.



4) Select the "Use the following IP address:" radio button, and then enter the following IP address and subnet mask, and click "OK":

192.168.111.250

255.255.255.0



Connecting Via Ethernet

After configuring the IP address of the laptop, open a web browser (Internet Explorer is preferred), and enter the following URL:

http://192.168.111.101/

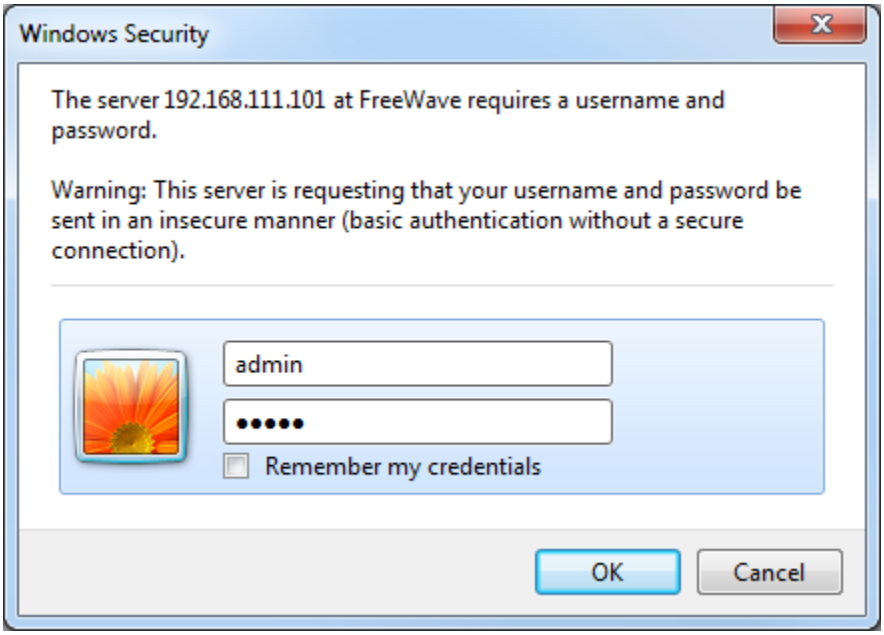
This assumes the IP address of the transceiver has already been configured to be 192.168.111.101. If these do **not** work, try:

http://192.168.111.100/

or

http://192.168.111.102/

You should be prompted with a logon screen. Enter **admin** as the username and password, and click "OK".

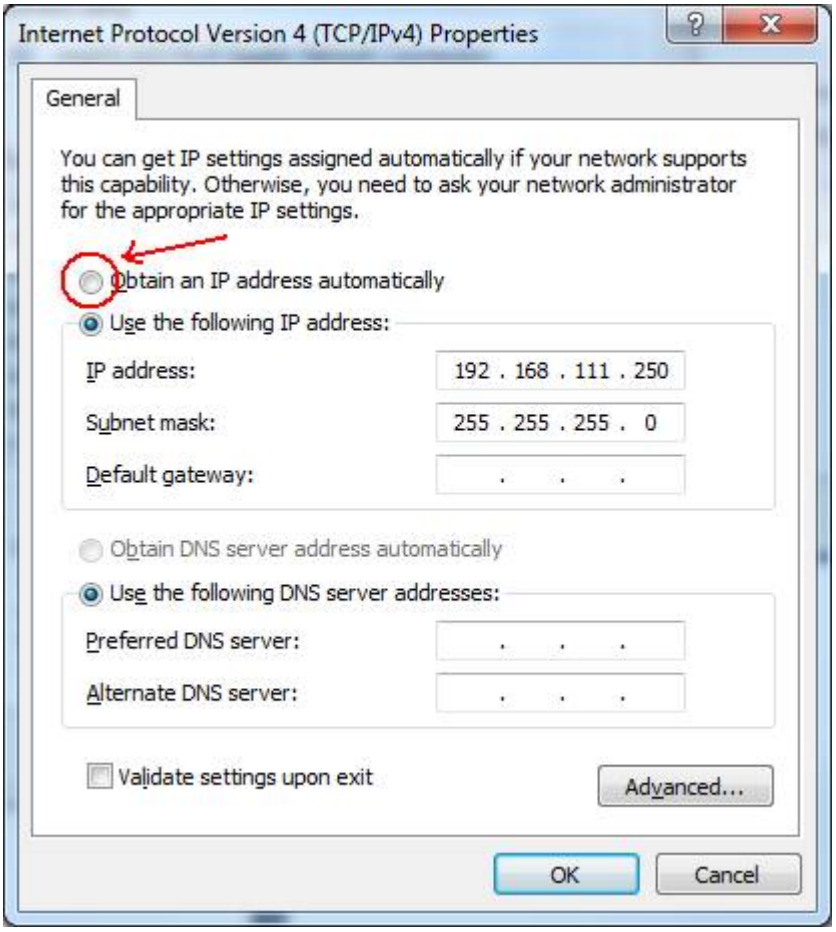


You should then be at the FreeWave transceiver homepage.

If you are unsuccessful in connecting to the FreeWave transceiver, contact software engineering at Harsco Rail.

Note that once you are finished configuring the FreeWave transceiver, you must revert the laptop IP address setting back to automatically obtaining it via DHCP. Refer to the Configuring the Laptop IP Address section of the document for details on how to access the Internet Protocol properties configuration window.

After you have opened the IP properties configuration window, select the "Obtain an IP address automatically" radio button, then click the "OK" button to apply the change:



Configuring the Radio Channel Frequencies

Select the "Radio Setup" index on the left of the browser, and then uncheck the "902.6-903.8" MHz option.

Then click the "Save/Apply" button at the bottom of the screen. Click the "Reboot" button to the left, and verify that when the settings are reloaded that the zone modification was retained through the transceiver reboot cycle.

This Page Is Intentionally Blank