Wheatstone Corporation

WheatNet-IP Driver Installation Guide

Prepare Windows for Installation (Win7 and Win10) Local Admin rights required!

1. Set Ethernet card to Private
    a. Launch Local Security Policy
        - Win7 – Control Panel, Administrative tools, Local Security Policy
        - Win10 – Start, Settings, About, Additional Administrative Tools
    b. Choose Network List Manager Policies
    c. Double-click All Networks
        - Network Location – Check user can change location
        - Click OK
    d. Double click Unidentified Networks
        - Location Type – Check Private
        - User Permissions – Check User can change location
        - Click OK
    e. Double-click Identifying Networks
        - Location Type – Check Private
        - Click OK.
2. Configure Ethernet Adapter for WheatNet-IP
    a. Open Network Sharing Center
    b. Click Change Adapter Settings
    c. Right-click on target Network Interface
        - Rename
        - Give descriptive name ie… WheatNet-IP xxx.xxx.xxx.xxx where xxx.xxx.is the IP Address you are going to assign to this network interface.
    d. Right click Network Interface and select Properties
        - Uncheck Ipv6 protocol
        - Change Ipv4 Settings - Manual
            – Type IP address to be used
            – Type Subnet Mask
            – Leave Default Gateway and DNS empty
        - Click Apply and OK

e. Right-click Network Interface and select Properties again
  • Click Configure next to the Adapter Identification
  • Click the Power Management tab
    - Disable all power Management Features (uncheck).

3. Configuring Windows Firewall

  a. Open Windows Firewall from Control Panel

  b. Click Advanced Settings

  c. In the Overview Pane, click Windows Firewall Properties

  d. Select Tab for Private Profile
    • Protected network connections – Click customize
    • Uncheck your WheatNet-IP Network Interface
    • This unbinds the NIC from the Firewall.
    • Click Apply then OK.
    • Repeat for the Public and Domain profiles, optionally if desired.

4. Disable Power Options, to keep PC from going to sleep mode or shutting off hard drives/monitor etc.

5. Turn off UAC (Requires Local Admin rights)

  a. Type UAC in the search field on the task bar. If the search field is not visible, right-click the Start Button and choose Search.

  b. Click Change User Account Control Settings in the Search Results

  c. To turn off UAC
    • Drag slider down to Never notify, click OK
    • If prompted confirm your selection
    • Restart computer to apply this setting.

6. Connect the Configured Network Interface to the WheatNet-IP Ethernet Switch

  a. Failure to complete this step, will cause the driver to fail to start after installation. The Driver requires the network interface to be active in order to function properly.

Installing the WheatNet-IP Driver

See also our documents on Driver Installation and our YouTube instructional video.

1. Install the WheatNet-IP Driver to the PC.

2. If using the USB Dongle for Licensing

  a. Install the Dongle after the Install package completes

  b. After connecting the USB Dongle-
    • Open Device Manager and expand Universal Serial Bus Controllers
    • Right-click on each USB HUB listed and select Properties

- • Disable Power Management
- • Right-click on the USB Security Device and select Properties
- • Disable Power Management.

3. After Installation, open Windows File Explorer, and navigate to *C:\Program Files (x86)\Wheatstone\Wheatnet IP\Driver*

   a. Right-click on the file *e2winctl.exe* and select Properties

   b. Click the Compatibility tab

   c. Privilege Level – Check Run as Administrator

   d. Click Apply then OK

   e. This step ensures when the Configure WheatNet-IP app is opened that it has enough rights to make registry key changes when changes are made in the app. If you do not complete this step, any changes made to the driver config will not be retained during a restart of the PC or the WheatNet-IP Transport Service.

4. Note, if using a USB License key, ignore the message in the config applet that a Software key is not found. This is Normal…you are using a Hardware (USB) Key and not a Software License.

5. If using a Software License Key, click Update License and paste your license key into this field. Click OK and Apply. This will cause the WheatNet-IP Service to restart and should report the number of channels in the license key.

6. Bind the WheatNet Driver to the correct Network Card.

7. Set the BLADE ID.

8. Set the Channel Count.

9. Note that Sample Rate has been removed from the Config GUI.

10. Once installed and configured Restart PC

    a. In some cases, the full channel count will not appear in windows sounds control panel until a restart is completed.

11. Correct/Check Sample Rates (WDM versions only)

    a. Open Windows Sounds Control Panel

    b. Click Playback Devices

    c. For each WNIP Device right-click and select Properties

    d. Click the Advanced Tab

    e. Set the Sample Rate to match your BLADE System 44.1k or 48k

    f. Click Apply and OK (Repeat for each channel)

    g. Click the Record Devices Tab

    h. Repeat the steps completed on Playback devices above.

12. ASIO Drivers will not create devices in the Windows Sounds Control Panel.

Driver Signing Issues

Some PC's are not typically connected to the Internet and as such do not receive regular windows updates. These PC's may have an issue creating the audio devices after installation. Microsoft deprecated SHA-1 driver signing, in favor of SHA-2. Due to this you may need to update these PC's with Windows Update or apply specifically this patch

https://technet.microsoft.com/en-us/library/security/3033929

Common Problems and Troubleshooting Issues

Sometimes the Drivers will not startup correctly. This can be due to a variety of reasons. Divide the problem into 3 parts: WheatNet-IP software, Windows, Network.

Check the WheatNet-IP Software

1. Open the Configure WheatNet-IP Driver app. Ensure correct Network Interface is selected.
2. Check/Restart the WheatNet-IP Transport Service.
   a. In some cases, the service will fail to start, however appear to be "started" in the Services Management console***
      - After PC restart, No Audio, or Drivers not working
        – This is due to the Service starting before the Network interface is ready.
          ^ Restart the Service to correct
        – Work around issue with changing the Start up Type of the Service
          ^ Delayed Start Automatic
          ^ Manual
            ^^ Manual would require a batch file or power shell script in startup or some other method to call the service to start.
3. Confirm the PC BLADE appears in Navigator
   a. If the Service is running but the PC BLADE is not listed
      - Check Windows Firewall is either disabled on the Network interface or otherwise program to allow the appropriate traffic.

Check Windows Sound Control Panel (WDM versions only)

1. Open Windows Sounds control panel
2. Select Playback tab
   a. Right-click WNIP Output Device and select Test
      - This will play a short test tone fired on both channels (L and R)

    b. If the test tone fails to play or modulate the meters, check the Sample Rate settings for each device to ensure matched to the WheatNet-IP BLADE System Rate

    c. If you get an error message that the device is in use, check the clock settings for each device to ensure match to system rate.

3. In some cases it may be necessary to remove the WNIP Devices

    a. Contact Tech Support for details on removing and reinstalling WNIP Devices.

Check Network Components

1. Check that Network Cable securely connected to NIC in PC.
2. Check that Network Cable securely connected to Switch Port.
3. Check Switch for required configuration for WNIP
    a. Global IGMP setup correctly?
    b. Proper Vlan and IP Address assigned
    c. Switch Port Configuration
        • Consult Wheatstone Switch Configuration Document for your particular switch.
4. Ensure Switch is connected to other WNIP Switches Properly
    a. Trunk Port to Trunk Port
        • Consult Wheatstone Switch Configuration Document for your particular switch
5. Check for the updated Windows Drivers for the NIC
    a. Always use Manufacturer Drivers and not Windows drivers via Windows Update.
6. Some Network Cards just may not work or work intermittently****
    a. Ensure latest manufacturer Windows Driver installed.
    b. Disable Power Management. (See above)
    c. Try a different Network Interface Card.

In order for the Driver to start properly, it must have a network connection and it must be able to communicate with the Route Master and Clock Master BLADE within the WNIP network in order to function.

*** This condition is prevalent in newer PC's with faster SSD Hard Drives but not necessarily exclusive to them. This condition occurs when the OS starts the Service before the Networking components are started or ready.

**** Wheatstone does not recommend any specific Network Cards. Requirements are that they can operate at Gigabit Speed, and are supported by the Operating System.

Getting Help Beyond Using This Document

If you are having issues and cannot resolve them with the help of this document, you are invited to contact Wheatstone Support at the following:

Email – techsupport@wheatstone.com
Phone – 1-252-638-7000