



### 860 DSPi Firmware Upgrade Instructions

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This Application Note discusses how to upgrade the firmware of the 860 DSPi. There are three ways to upgrade the 860 DSPi as follows:

- Serial – Use a serial cable to directly connect a PC to the 860 DSPi.
- Ethernet - Use a router that is configured as a DHCP server. You must first be sure that the router you are using is setup to assign IP addresses using DHCP (Dynamic Host Configuration Protocol).
- Ethernet - Use a cross-over cable to directly connect a PC and the 860 DSPi that are both assigned a static IP address within the same range.

### Serial Connection

#### Prerequisites

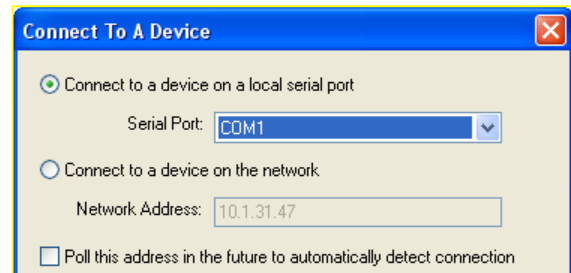
The following tasks must be completed before performing the firmware upgrade:

- Connect the 860 DSPi to the PC using the 860 DSPi serial cable.
- Connect the 860 DSPi to the charge cube and plug the charge cube into AC power.
- You must have WorkBench Software.

#### Upgrade Firmware

Perform the following steps using WorkBench:

1. Under the **Online** tab select the “Updates & Upgrades” link, and then select the “Click here to download 860 DSP or 860 DSPi firmware” link. This will download the firmware upgrade (.860) file.
2. Under the **Devices** tab, right-click **860 DSP**, and then select “New 860 DSP Connection...”.
3. Select the “Connect to a device on a local serial port” radio button and select the Serial Port that the 860 DSPi is connected to.
4. Select the **Connect...** button.

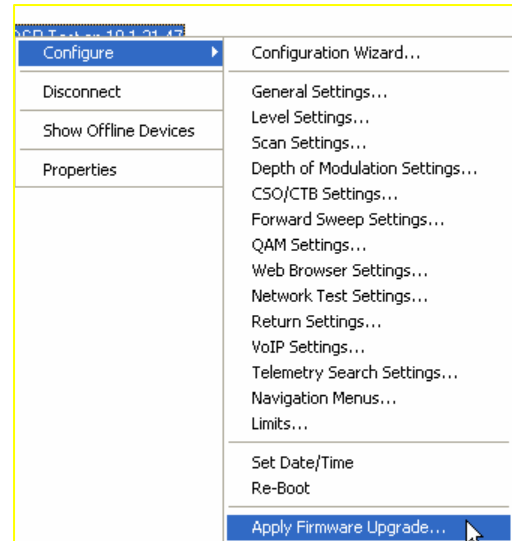


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5. Right-click on the device, then hover over the “Configure” menu, and then select “Apply Firmware Upgrade...”.
6. Select the firmware upgrade (.860) file that was saved in Step 1, and then select the **Open** button.



## Ethernet Connection

### Using a Router

#### *Prerequisites*

The following tasks must be completed before performing the firmware upgrade:

- Connect the 860 DSPi to the router using a Cat5e Ethernet cable.
- Connect the 860 DSPi to the charge cube and plug the charge cube into AC power.
- Connect a PC to the router.

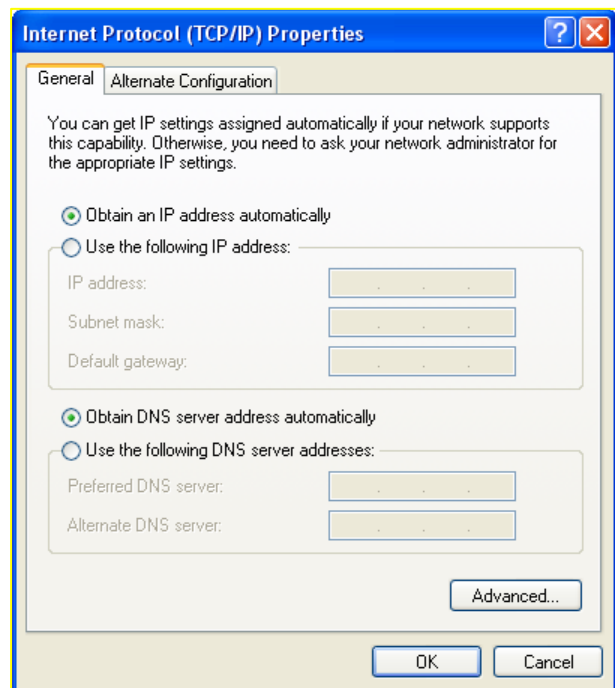
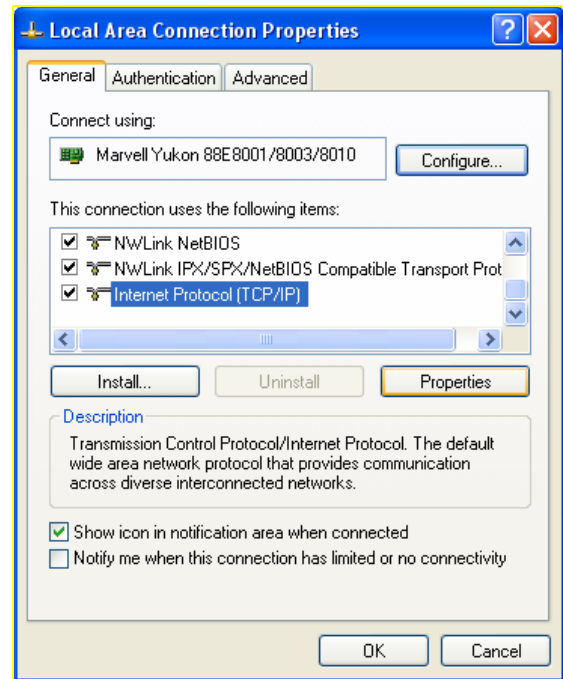
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### Configure the PC to Obtain an IP Address Automatically

1. Select the **Start** button, then right-click **My Network Places** and then select "Properties".
2. Right-click **Local Area Connection** and then select "Properties".
3. Select "Internet Protocol (TCP/IP)", and then select the **Properties** button.
4. Select the "Obtain an IP address automatically" radio button.
5. Select the **OK** button to save the configuration changes.



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### Configure the 860 DSPi for DHCP Using the External RJ45 Port

1. Go to the **Setup** menu and select the "Setup" icon.
2. Select the "COM/NET" option.
3. Adjust the **Network Port** field so that "External RJ45 Port" selected.
4. Adjust the **My IP Address** field so that "DHCP" is selected. If "DHCP" is not selected, enter "0.0.0.0" in the **My IP Address** field and select the **Ent** button. The **My IP Address** field will default to "DHCP".
5. Go to the **Installer** menu and select the "PING" icon to activate the RJ45 port and obtain an IP address from the router.

**COMMUNICATION SETTINGS**

Network Port	External RJ45	10 Mbps
My IP Address	DHCP (Dynamic)	
Subnet Mask	0.0.0.0	
Gateway Address	0.0.0.0	
Pri DNS Address	0.0.0.0	
Sec DNS Address	0.0.0.0	
Activate Network	On Startup	
Com 1 Baud Rate	38400 BAUD	
Com 2 Baud Rate	9600 BAUD	

Press Enter, Up, or Down to Adjust

**Ping (Our IP = 10.1.31.47)**

Host Name  
or Host IP

Pkt Delay  Pkt Size

Sent	Min Time
Received	Avg Time
Lost	Max Time
LPR	Vt Latency
LPR (%)	Jitter

Ping

FAVORITE    START    STOP    MODEM

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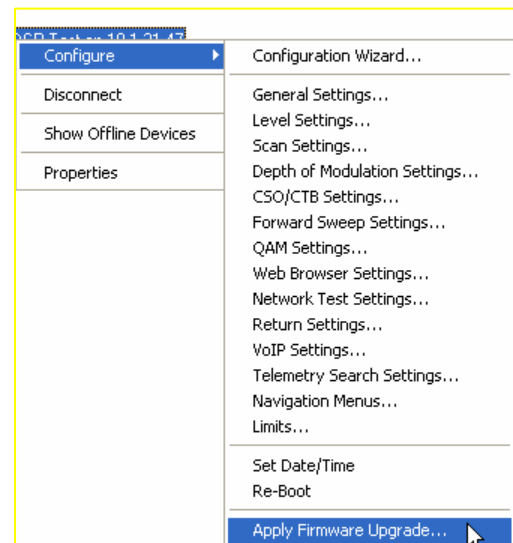
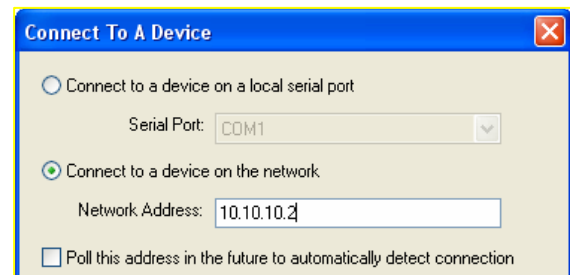
### Upgrade Firmware

If you are not using WorkBench, download the 860 DSPi firmware upgrade zip file from the Trilithic website. Then, unzip the file and double-click the executable (.exe) firmware upgrade file. When prompted, enter the IP address of the 860 DSPi and press the **Enter** button.

OR

If you are using WorkBench, perform the following steps:

1. Under the **Online** tab select the “Updates & Upgrades” link, and then select the “Click here to download 860 DSP or 860 DSPi firmware” link. This will download the firmware upgrade (.860) file.
2. Under the **Devices** tab, right-click **860 DSP**, and then select “New 860 DSP Connection...”.
3. Select the “Connect to a device on the network” radio button and enter the IP address of the 860 DSPi.
4. Select the **Connect...** button.
5. Right-click on the device, then hover over the “Configure” menu, and then select “Apply Firmware Upgrade...”.
6. Select the firmware upgrade (.860) file that was saved in Step 1, and then select the **Open** button.



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## Using a Cross-Over Cable

To use a cross-over cable you will need to assign a static IP address within the same range to both the PC and the 860 DSPi. For this Application Note we will be using the IP address 10.10.10.0 and Subnet Mask 255.255.255.0.

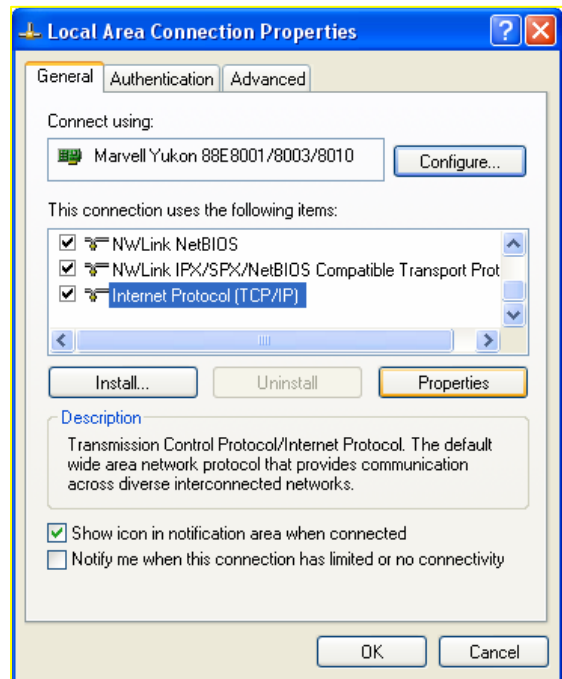
### ***Prerequisites***

The following tasks must be completed before performing the firmware upgrade:

- Connect the 860 DSPi to the PC using a Cat5e cross-over cable.
- Connect the 860 DSPi to the charge cube and plug the charge cube into AC power.

### ***Configure the PC to Use a Static IP Address***

1. Select the **Start** button, then right-click **My Network Places** and then select "Properties".
2. Right-click **Local Area Connection** and then select "Properties".
3. Select "Internet Protocol (TCP/IP)", and then select the **Properties** button.

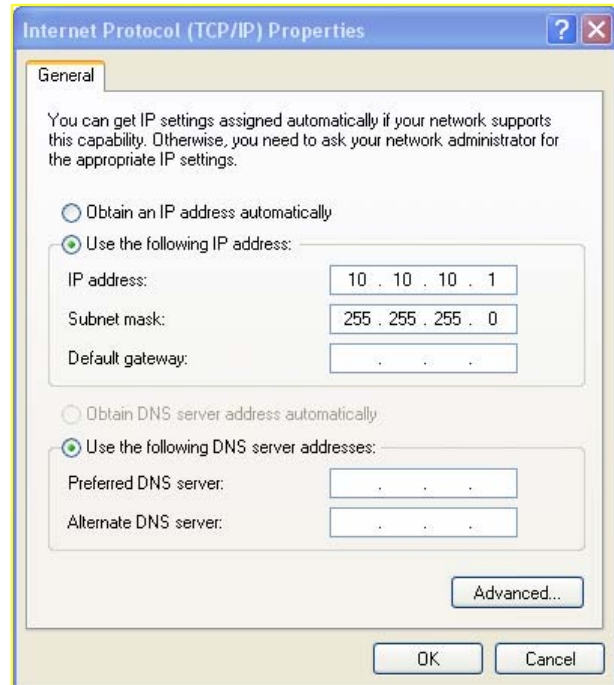


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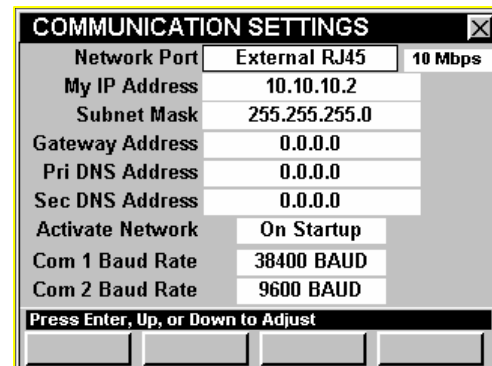


4. Select the "Use the following IP address:" radio button and enter the IP address of 10.10.10.1 and the Subnet Mask of 255.255.255.0.
5. Select the **OK** button to save the configuration changes.



### **Configure the 860 DSPi for a Static IP Address Using the External RJ45 Port**

1. Go to the **Setup** menu and select the "Setup" icon.
2. Select the "COM/NET" option.
3. Adjust the **Network Port** field so that "External RJ45 Port" selected.
4. Enter the IP Address of 10.10.10.2 in the **My IP Address** field.
5. Enter the Subnet Mask of 255.255.255.0 in the **Subnet Mask** field.
6. Go to the **Installer** menu and select the "PING" icon to activate the RJ45 port.



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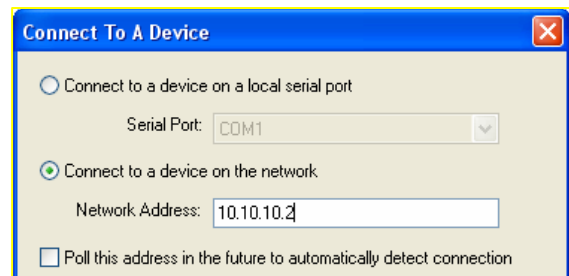
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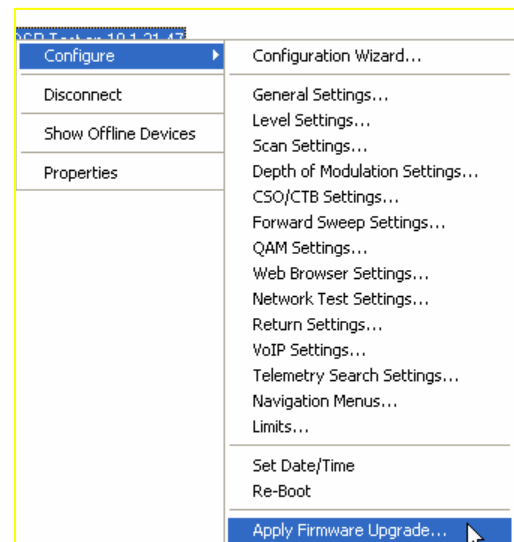
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If you are using WorkBench, perform the following steps:

1. Under the **Online** tab select the “Updates & Upgrades” link, and then select the “Click here to download 860 DSP or 860 DSPi firmware” link. This will download the firmware upgrade (.860) file.
2. Under the **Devices** tab, right-click **860 DSP**, and then select “New 860 DSP Connection...”.
3. Select the “Connect to a device on the network” radio button and enter the IP address of the 860 DSPi.
4. Select the **Connect...** button.



5. Right-click on the device, then hover over the “Configure” menu, and then select “Apply Firmware Upgrade...”.
6. Select the firmware upgrade (.860) file that was saved in Step 1, and then select the **Open** button.



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