MDI FAQ

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1. **Why does the MDI Explorer show MDI units blinking on and off?**

   The MDI Explorer expects regular periodic communications with the MDI. On wireless networks where the wireless access point is configured for automatic channel hopping, this symptom may be present on congested wireless channels. Have your network administrator configure the access point so that channel hopping is off and the MDI is on a less congested channel.

2. **Will MDI program the same modules as a TECH 2?**

   The MDI is designed to work with the GM TIS Service Programming System for all vehicles that are currently programmed with TECH 2 and that have a 16pin DLC. There are known limitations in programming the Vehicle Theft Deterrent (VTD) systems at the time of release. VTD systems should be programmed using previous methods.

3. **How and when is a SELF TEST performed on the MDI?**

   Each time the MDI is powered-on, it goes through a Power On Self Test (POST). If the test passes, the MDI will emit an audible beep and the MDI will have only the Power-On LED lighted. It should take approximately 25 seconds for POST to complete. If the POST fails (Power-On LED not lighted, or No beep), perform the MDI software recovery procedure. After the software recovery procedure has been completed, if the MDI still fails the POST, contact your customer support center. If the recovered MDI passes POST, the latest version of MDI firmware must be installed using the MDI Manager connected via USB.

   **DLC Cable Test?**

   - Powered AC?
   - DLC Cable Connected Yes/No?

4. **What if the MDI error LED is on?**

   Power cycle the MDI. If error light stays on, perform a software recovery procedure. After the software recovery procedure has been executed, the MDI should pass the POST and the error LED should be off. If the MDI error LED is still on contact your customer support center. The MDI must be connected using USB and the latest version of MDI firmware must be installed before usage.

5. **What if the MDI does not power up?**

   The MDI automatically powers up when power is applied to the DLC or the AC adapter, the MDI will not power up on battery power alone. If the MDI was powered down manually then the MDI will need to be powered up manually by pressing the ON/OFF button.

   - Power MDI from an external source, AC 12-volt adapter or MDI DLC cable.
   - Check cable connectors and power sources.
   - Press ON/OFF button on the MDI.
6. **Why does the MDI sometimes take longer than 1 minute to complete POST (Power On Self Test)?**

The MDI will take approximately 1 minute to complete POST the first time it powers ON following a firmware update.

7. **Why does the MDI beep when power is lost?**

This beep indicates the MDI AAA batteries are temporarily supplying power to the unit. If power is removed from the MDI, there will be an audible beep for approximately 30 seconds before the MDI powers down. The AAA battery life can be extended by manually powering the MDI down.

8. **Why does the MDI turn off immediately when external power is lost?**

If the AAA batteries have been installed and are charged, the MDI should remain powered up when external power is removed for up to 30 seconds. The amount of time the MDI remains powered depends on the strength of the batteries.
   - Verify AAA batteries have been installed correctly.
   - Replace AAA batteries.

9. **Which version of MDI Manager software is on the PC? The MDI?**

On the MDI Manager Explorer screen, select ‘Show Details’. The software version information is displayed for the currently selected MDI. The ‘Help’ tab will also show software version info (PC only if not connected to an MDI).

10. **How is the MDI put into RECOVERY mode?**

   - Unplug any external power cords.
   - Push and hold down MDI power button while connecting to external power source.
   - In approximately 10 seconds all LED lights will flash, when this happens, release the power button.
   - After the MDI has completed POST, it will be in RECOVERY mode.
   - Run MDI Manager, the MDI icon should be in the explorer window with ‘Recover’ displayed under the icon (see RECOVER description below).

11. **What is the default PC connection for an MDI?**

An MDI must be able to connect to your PC via USB. The USB interface is the only way to update/recover MDI software and configure other interfaces.
12. Can an MDI be configured for more than one interface?
An MDI may be configured for all three interfaces simultaneously, USB, Wired Ethernet and Wireless. However, a user can only connect to the MDI on one interface. Hovering the cursor over an MDI icon in the MDI Manager's Explorer window will prompt a popup to display the IP addresses for all available interfaces.

13. Can the MDI be configured to support Multiple Wireless Connections?
No - the current MDI firmware supports only a single wireless configuration.

14. In Service Programming, why doesn’t the ‘Device Explorer’ screen reappear for each programming event after I have selected an MDI?
Once an MDI is selected from the Device Explorer screen, it is used for the entire SPS session. To select a different MDI, close and then restart the SPS application.

15. What if MDI is not displayed in the MDI Manager Explorer window?
The MDI Manager software does not see the MDI.
- Verify the MDI is powered-on and has completed the POST.
- Connect the MDI to the PC using the USB connection. If the MDI does not appear in the explorer window then check the cable connections and verify the USB driver has been installed on the PC (look for device name ‘ETAS USB Remote NDIS Network Device’ under Network Connections).
- Verify that no other MDI is connected to the PC using the USB interface.
- If using a Wired Ethernet (LAN) connection check the Ethernet cable connections and verify the MDI and the PC are cabled into separate LAN connections on the same network.
- If using a Wireless connection check the following
  - The wireless card is installed and properly seated in the MDI
  - Confirm the PC and the MDI are within ‘range’ of the Access Point or Router.
  - While connected via USB check
    - The MDI wireless signal strength
    - The PC and MDI are configured to use the same wireless network
16. **What if MDI is unable to connect on USB interface?**

- Check USB cable connections.
- Check Firewall Settings on your PC.
- Verify a USB Hub is not being used (MDI has a fixed USB address).
- Verify that only one MDI is connected to your PC using USB.
- Verify the USB driver has been installed on the PC (look for device name ‘ETAS USB Remote NDIS Network Device’ under Network Connections).
- Try connecting to other USB ports on the PC.

17. **What if MDI is unable to connect on Wired Ethernet?**

- Check Ethernet cable connections.
- Check Firewall Settings on your PC.
- Verify the MDI and the PC are cabled into separate LAN connections on the same network.
- Verify that the PC is properly configured and can communicate on the network.
- USB connection takes precedence, unplug USB cable.
- Connect to MDI using USB and run MDI Manager to verify the Wired Ethernet Settings are configured correctly. (Refer to: How do I configure the Wired Ethernet interface?)
  - Wired Ethernet interface is enabled.
  - If using static IP, verify the IP Address and Subnet mask are correct (supplied by your network administrator).

18. **What if MDI is unable to connect on Wireless interface?**

- Check the wireless card is properly seated in the MDI.
- Confirm LEDs on the wireless card are lighted when the MDI is powered.
- Verify the MDI and PC are within range of the Access Point or Router.
- Verify that the PC is connected to the Access Point or Router.
- Verify signal strength of the wireless network from the PC.
- Check Firewall Settings on your PC.
- USB connection takes precedence, unplug USB cable.
- Wired Ethernet connection takes precedence, unplug Ethernet cable.
- Connect to MDI using USB and run MDI Manager to verify the Wireless Settings are configured correctly. (Refer to: How do I configure the Wireless interface?)
  - Wireless interface is enabled.
  - AP settings configured for proper security (authentication, encryption).
  - Signal Quality (fair, good, excellent) indicates connected to AP.
  - The MDI, PC and AP are on the same subnet.
  - If using static IP, verify the IP Address and Subnet mask are correct (supplied by network administrator).
19. Why does the MDI Manager not detect an MDI interface but the Properties tab indicates that the interface is properly configured?

In order for an MDI’s interface (wired Ethernet or wireless) to be detected by the MDI Manager, the PC must also be configured for communications on the same network.

- For wireless communications, verify that the PC can communicate with the Access Point or Router being used by the MDI.
- For wired Ethernet, verify that the PC can communicate with other devices on the network.

20. Why does the MDI Explorer display UPDATE PC S/W?

This condition occurs if someone else has updated an MDI from a different PC. The MDI contains newer software than the PC. The PC software needs to be updated (see Figure 4).

Figure 4
21. Why does MDI Explorer display UPDATE MDI S/W?

The MDI software needs to be updated. This condition typically occurs when new MDI software is installed on the PC.

- Connect to MDI with USB.
- Select 'Update MDI'
- Start Update’ to perform a software update (see Figure 5, Figure 6).
22. Why does MDI Explorer display RECOVER?

This state indicates that someone has initiated the Recover process. The MDI software needs to be recovered.

- Connect to the MDI with USB.
- Select ‘Recover’.
- ‘Start Update’ to perform a software recovery (see Figure 7 and Figure 8).

Figure 7

Figure 8

23. When configuring the MDI to use a fixed IP address for a Wireless or Wired Ethernet interface, which IP address and Subnetwork mask should be used?

The IP address and Subnet mask should be determined by the local IT/Network Administrator. The IP address and Subnet mask must be compatible with the local LAN (Wired) or the AP/Router (Wireless). The IP address must be unique for the network on which it will communicate. If an incorrect IP or Subnet is entered, it may result in address conflicts and/or inability to connect.
24. How do I configure a Wired Ethernet interface?

In order to configure the Wired Ethernet interface the MDI must be connected to the PC using the USB connection. If connecting to your dealer network you may be required to contact your IT/Network administrator for proper settings.

- Connect to MDI with USB connection.
- Select the ‘Enable Wired Ethernet Interface’ box in the Network Setup tab (see Figure 9 and Figure 10).
- If using Dynamic IP addresses (DHCP) select the ‘Obtain an IP address automatically’ box.
- If using a Static IP address:
  - If connecting to the dealer network contact your IT/Network Admin for IP Settings.
  - Select the ‘Use the following IP address’ box.
  - Enter the IP address to be used.
  - Enter the appropriate Subnet mask.
- Select ‘Apply’.
- Verify settings in Properties tab.
- Connect the MDI Ethernet cable to the dealer network. (Do not connect to the Tech 2 RS232 cable.)
- From MDI explorer TAB select “Disconnect MDI”.
- Move the cursor over the MDI, confirm that Wired Ethernet configuration has been added.
- Disconnect the USB cable.
- The MDI should still be listed in the MDI Explorer.

![Figure 9](image1)

![Figure 10](image2)
25. Why does the MDI Manager indicate that Access Point information is invalid when I attempt to change the wireless interface’s IP settings?

To communicate wirelessly, the MDI must connect to the PC through an Access Point. No wireless interface changes can be applied until an Access Point is configured.

26. When configuring a Wireless interface for the MDI, which authentication and encryption level should be used?

It is necessary to access the AP/Router in order to determine these settings. In some cases you are required to contact your IT/Network Administrator for this information. Authentication and encryption level settings are dependent on the Access Point/Router security settings.

27. How do I configure the Wireless interface?

- Connect to MDI with USB connection.
- Update the MDI firmware if required.
- From the MDI explorer TAB, select the MDI and press the connect button.
- Select the Network Setup TAB.
- Select the ‘Enable Wireless Interface’ box in the Network Setup TAB.
- If using Dynamic IP addresses (DHCP) select the ‘Obtain an IP address automatically’ box.
- If using Static IP address:
  - If connecting to the dealer network contact your IT/Network Administrator for IP settings.
  - Select the ‘Use the following IP address’ box.
  - Enter the IP address to be used.
  - Enter the appropriate Subnet mask.
- Select ‘Access Point’.
- Select ‘Refresh’ to list the SSID’s of the ‘in range’ Access Points available (see Figure 11).
- If the SSID of the Access Point is not broadcast or is not in range may be entered manually by selecting ‘Enter Network Name’ and entering the SSID.
- Select ‘Configure’ and enter the Access Point security information. Select ‘Next’ (see Figure 12).
- Select ‘Apply’.
- Verify settings in Properties tab.
- Signal Quality (fair, good, excellent) indicates the MDI has connected to AP.
- From MDI explorer TAB, select disconnect.
- Unplug the USB connector from the MDI.
- Unplug the wired Ethernet connector from the MDI if present.
- If the MDI, PC and AP are configured properly, the MDI should still appear in the MDI explorer.
- Select Connect.
28. **How do I disable the Wireless interface?**
   - Connect to MDI with USB connection.
   - Deselect the ‘Enable Wireless Interface’ box in the Network Setup tab.

29. **How can I determine who is connected to an MDI?**
    From the MDI Explorer select “Show Details” The MDI currently in use will display the user’s PC ID. See Figure 13.
30. How can I check if the USB device driver has been installed correctly?

Use the windows Device Manager to view the network adapters. The ETAS USB Remote NDIS Network Device will be displayed whenever an MDI that is power on is attached to the PC USB port. Make certain there is not a yellow or red marker on the adapter. These markers signal an adapter problem. If there is a conflict or other hardware problem try another USB port on the PC or contact your PC hardware administrator.

![Figure 14](image1)

![Figure 15](image2)

31. Can more than one MDI be connected to the USB port?

No.

32. What is the maximum length that can be used for each connection?

<table>
<thead>
<tr>
<th>Type</th>
<th>Maximum Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wired Ethernet Connection</td>
<td>100 Meters</td>
</tr>
<tr>
<td>USB</td>
<td>5 Meters</td>
</tr>
<tr>
<td>Wireless Ethernet Range</td>
<td>30 Meters indoors (Dependent on infrastructure)</td>
</tr>
</tbody>
</table>

33. Is it possible to use a Cross over Cable for wired Ethernet?

Yes, it is possible however the MDI and the PC must be configured to use a Static IP. Note most dealer networks do not use Static IPs for the PC.
34. **Can the PC Firewall Settings affect the MDI functionality?**

Yes, in most cases the MDI will be visible by the MDI explorer but the user will not be able to connect to the MDI. The following applications are used by the MDI and will need to pass the PC firewall:

- **MDI Identification service:**
  C:\program files\gm mdi software\gm mdi identification service\gm_mdi_ident.exe

- **MDI Manager:**
  C:\program files\gm mdi software\gm mdi manager\gm_mdi_manager.exe

35. **How do I get the MAC addresses for the MDI?**

Connect to the MDI via USB using the MDI manager and enable the Ethernet connection type. The network communication card MAC address can now be read from the Properties tab. The wireless MAC address is also printed on the wireless card.

36. **Can I Ping the MDI?**

Yes, the MDI can respond to PC ping requests on all three connections types. The MDI's IP addresses can be obtained from the explorer tab by hovering over an MDI, in the detail view or in the properties tab.

37. **Is it possible to Adjust the Volume?**

No

38. **What do the LED’s on the side of the Ethernet Connector mean?**

These LEDs are lighted when connected to an active Ethernet port.

39. **What do the LED’s on the side of the wireless card mean?**

These LEDs are lighted when the MDI is powered and the wireless card is properly connected.
40. Can the TECH 2 RS232 cable be used with the MDI?
   No

41. TIS Service Programming System displays the MDI with a red X through the ICON.
   This condition indicates the MDI is in recovery mode.

![Figure 16](image)

42. Can I use my MDI with a PC configured for Multiple Desktops?
   Only one user can connect to a given MDI. Multiple SPS sessions on a PC is not a supported configuration.

43. Why is the MDI DLC cable the length it is?
   The MDI cable is designed to work with all diagnostic protocols found on GM vehicles (Past and Present). The GMLAN diagnostic links are sensitive to bus capacitance. There are several ways to minimize bus capacitance. One method is to use shielded twisted pair wires internal to the cable the other is use a shorter cable.

   Using twisted pair wires has the following disadvantages,
   1) adds cost to the cable.
   2) Can cause signal cross-talk on non-GMLAN vehicles.
   In order to minimize potential issues in the field a shorter cable was selected.