



Service Information

Diagnostic Device Hardware & Windows®

Number: AHW-17-16

Subject: VAS 6154 Diagnostic Interface – WLAN Performance Optimizations

Date: Dec. 7, 2017

Supersedes VHW-16-15 due to additional optimizations.

1.0 - Introduction

The performance of a VAS 6154 on the dealership's wireless network (WLAN) depends on many variables. These include different WLAN types, speeds, security features etc., and operation in a wide range of dealership environments, e.g.: building materials, workshop layout and electrical construction.

If a VAS 6154 fails to connect intermittently, is slow to connect or consistently loses connections, various optimizations can be applied to improve its performance on the WLAN. **Carefully review all section topics that follow, then check & determine applicability.**

ATTENTION:

- The following optimizations are best performed by personnel with specific working knowledge of the dealership WLAN, and are familiar with VAS 6154 components, its initial setup and use.
- Personnel who do not have specific working knowledge of the dealership WLAN or do not understand the following information should ask a qualified person for assistance.
- This information may be revised at any time. Always check ServiceNet for the latest version.

2.0 – Optimizations

Prerequisites:

- ☐ Dealership **wireless network type** is known: DHCP or Static IP – dual-band or single band.
- ☐ Diagnostic device plugged in to power adapter and booted to Windows desktop
- ☐ Initial VAS 6154 set up performed per the **Initial Setup Guide** document (posted on ServiceNet)
- ☐ WLAN Module plugged-in to VAS 6154 diagnostic interface
- ☐ VAS 6154 docking station and USB-Y cable on hand

2.1 – Windows WLAN Power Management

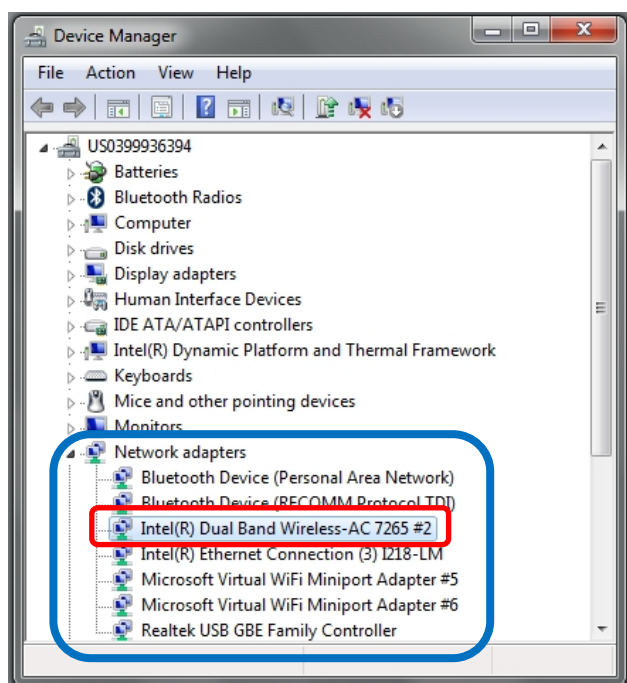
Windows may automatically turn off WLAN functions when no network traffic is recorded by the diagnostic device after 20 minutes. This feature can be disabled as follows:

(cont.)



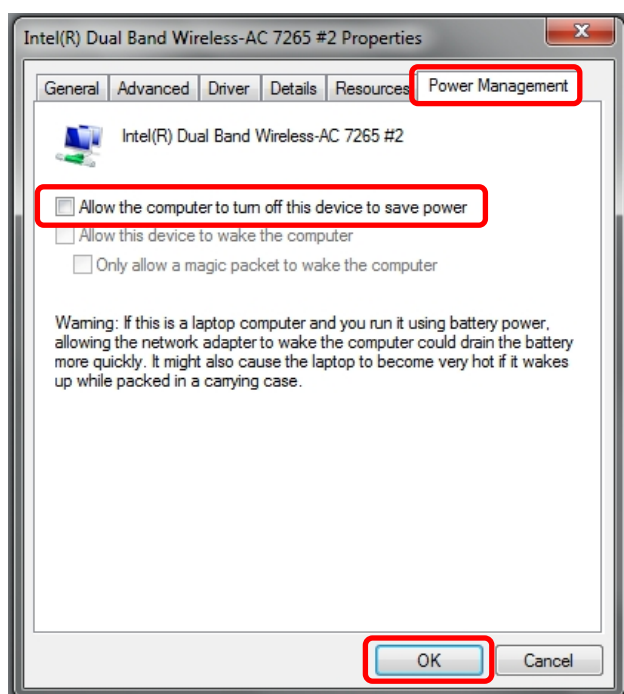
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1. From the Windows desktop, go to: **Start > Control Panel > Device Manager**
2. Expand the **Network adapters** category, and then double-click the applicable **wireless** adapter:



Note:
The wireless network adapter illustrated here is an example only! Adapter brand names and types vary between devices.

3. Select the **Power Management** tab:
4. **Uncheck** the **Allow the computer to turn off this device to save power** function, select **OK**, and then **Close** all open windows:





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2.2 – VAS 6154 Power Management

VAS 6154 power management functions can be disabled from its **Web Interface** as follows:

1. Connect single end of USB-Y cable to base station and double end to available USB ports on diagnostic device, and then plug in the VAS 6154 with connected WLAN module into the base station:

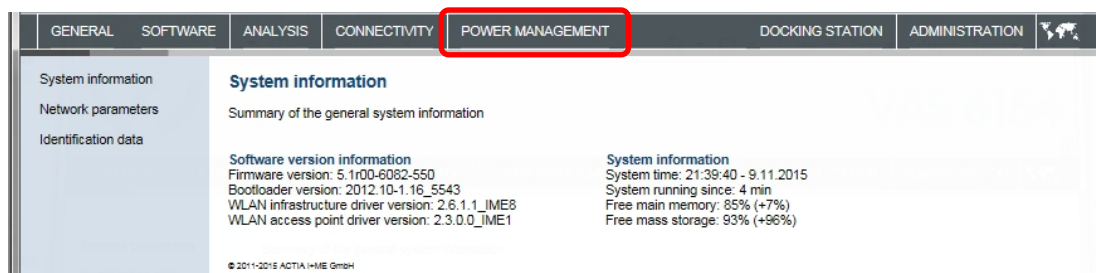


2. From the Windows desktop, open **Internet Explorer** and **manually enter** the following IP address in the browser's address bar:

http://192.168.1.69

(optional: **http://vas6154-dock**):

3. Select the **Power Management** main category:



4. **Deactivate** the **Power-saving mode** and **Automatic shutdown** functions as illustrated (select **No**), and then select **Accept**:

Power-saving mode

Activate power-saving mode ☐ Yes ☒ No

Activation after 15 Minutes

Automatic shutdown

Activate automatic shutdown ☐ Yes ☒ No

Shut down after 30 Minutes

Buzzer

Activate buzzer ☒ Yes ☐ No

Activation time after diagnosis is completed 20 Minutes

Accept **Reset**



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2.3 – Change Communication Frequency

The frequency band at which the VAS 6154 communicates can be optimized for the dealership wireless network and its operating environment, e.g.: physical barriers like walls and ceilings, above or below grade and potential for electrical interference. Be aware of the following pros-and-cons and decide accordingly:

- A dedicated **2.4GHz** connection has better range and barrier capabilities than a 5.0GHz connection, but tends to be slower, less stable and more prone to microwave and other electrical interference.
- A dedicated **5.0GHz** connection tends to be faster, more stable and less prone to electrical interference compared to a 2.4GHz connection, but has poorer range and, in some cases, worsened barrier capabilities.

If a VAS 6154 exhibits frequent connectivity issues at the default 2.4GHz setting, i.e.: does not connect sometimes or disconnects, **and the technician users proximity to the wireless access point is relatively close**, we suggest switching to the **5.0GHz** frequency band, **OR** select to automatically toggle between the two (dual-band network only).

Prerequisite:

- ☐ VAS 6154 connected to base station with active web Interface session (Ref. Section 2.2).

1. Select the **Connectivity** main category and **WLAN Infrastructure** subcategory:
2. Scroll down and select the **5GHz** frequency band, **OR** toggle **2.4GHz / 5GHz** (if supported), and then select **Accept**:

The screenshot displays the VAS 6154 web interface. The top navigation bar includes tabs for GENERAL, SOFTWARE, ANALYSIS, CONNECTIVITY (highlighted with a red box), POWER MANAGEMENT, DOCKING STATION, and ADMINISTRATION. On the left sidebar, under 'WLAN access point', the 'WLAN infrastructure' option is selected (highlighted with a blue box). The main content area is titled 'WLAN infrastructure settings'. It contains several fields: SSID (WLANAH-MO-GA1), Available radio networks (with a Scan button), Frequency band (with three radio button options: '2.4GHz / 5GHz' which is selected and highlighted with a purple box, '2.4GHz', and '5GHz' which is highlighted with a green box), Encryption (WPA2 (CCMP+TKIP/PSK) is selected), Key (masked with dots), and a Display checkbox. Below these are fields for Certificate installed, Certificate authority, and Upload certificate (with a Password PKCS12 field and a Browse... button). At the bottom right, the 'Accept' button is highlighted with a red box, next to a 'Reset' button.



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2.4 – Assign Static IP Address to VAS 6154

When starting GFF in WLAN Infrastructure mode, quicker network connections to the VAS 6154 may be obtained when it is assigned and operates exclusively with a **static IP address**, and a “network host name” is added to the interface software.

A static IP and its related addresses must be assigned by the dealership Systems Administrator or IT Professional responsible for the dealership network.

ATTENTION:

The assignment of a static IP address, subnet mask and gateway information **MUST** be coordinated with, and recorded by personnel qualified to do so as mentioned above. These addresses cannot be randomly created and applied.

When all required addresses are known, proceed as follows:

Prerequisite:

- ☐ VAS 6154 connected to base station with active web Interface session (Ref. Section 2.2).

- Select the **Connectivity** main category and **WLAN Infrastructure** subcategory:
- In the **IP settings** category: Deactivate **DHCP** (select **No**), and then enter the assigned **static IP address, Network mask and Gateway information:** Then select **Accept**:

The screenshot shows the VAS 6154 web interface. The top navigation bar includes 'GENERAL', 'SOFTWARE', 'ANALYSIS', 'CONNECTIVITY', and 'POWER MANAGEMENT'. The 'CONNECTIVITY' tab is selected. On the left sidebar, 'WLAN infrastructure' is highlighted under the 'WLAN access point' category. The main content area shows 'IP settings' with fields for 'IP address', 'Network mask', and 'Gateway'. Below these is the 'Activate DHCP' section with radio buttons for 'Yes' and 'No', where 'No' is selected. Further down is the 'WLAN infrastructure settings' section, including 'SSID' (WLANAH-MO-GA1), 'Available radio networks', 'Frequency band' (2.4GHz selected), 'Encryption' (WPA2 selected), and 'Key' (masked). At the bottom right, there are 'Accept' and 'Reset' buttons. A red arrow points from the 'Accept' button in the instructions to the 'Accept' button in the interface.

- Close the web interface session and proceed to Section 2.5.



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2.5 – Add Static IP Address & Host Name to Interface Software

Prerequisite:

- ☐ Static IP address etc. must be assigned to VAS 6154 (Ref. Section 2.4)

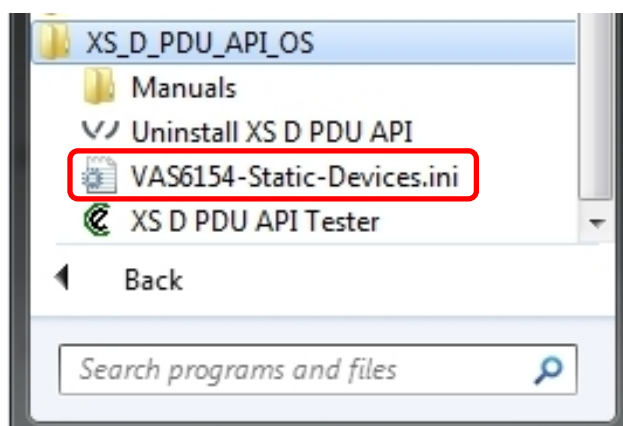
- Record the **serial number** from the **VAS 6154 module** on a piece of paper, and then add the prefix **VAS6154-** in front of the recorded serial number. Example: **VAS6154-5100885**

Note:

A dash (-) must separate the prefix from the serial number! An underscore (_) should **NEVER** be used.

The number created above will be entered as a **network hostname** in the following procedure.

- From the Windows desktop, go to: **Windows Start > All Programs > XS_D_PDU_API_OS**
- Select: **VAS6154-Static-Devices.ini**



An editable VAS6154 Device Management .ini “Notepad” document is displayed:



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4. In the ----- **begin of VAS6154-Static-Devices.ini** ----- section, below the [example text](#), type in the **network hostname** created in Step 1 - Page 6 in brackets as illustrated below:

```
Example:
----- begin of VAS6154-Static-Devices.ini -----
[VASHOST]
IpAddress=192.168.0.54 ; optional
[VAS6154-5100885]
----- end of VAS6154-Static-Devices.ini -----
```

Type in the VAS 6154 hostname

Notes:

- The hostname **must** be typed-in in brackets [. . . .]
- A **semicolon (;)** must **NOT** precede the typed-in hostname.
- The hostname illustrated above **is an example only!** All VAS 6154 serial numbers are different!
- **Warning:** An underscore (_) should **NEVER** be used.

5. In the ----- **begin of VAS6154-Static-Devices.ini** ----- section, below the [example text](#), confirm that the network hostname created above appears **in brackets**.
6. Type in **IpAddress=** followed by the **dealership-specific network static IP address** below the hostname as illustrated below:

```
Example:
----- begin of VAS6154-Static-Devices.ini -----
[VASHOST]
IpAddress=192.168.0.54 ; optional
[VAS6154-5100885]
IpAddress=192.168.13.54
----- end of VAS6154-Static-Devices -----
```

Type in the static IP address: The equal sign (=) must appear before the address.

7. **Save** and close the .ini Notepad document.

Notes:

- A **semicolon (;)** must **NOT** precede the typed-in static IP address.
- The static IP address illustrated above **is an example only!** All dealership-specific static IP details are different!

When configured as described above, the interface software will automatically locate and connect to the VAS 6154 whose hostname (serial number) was entered in the .ini. This essentially “pairs” the VAS 6154 with the diagnostic device, and the two should be used together at all times.



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2.6 – Enable Roaming

Roaming is helpful if you have multiple Wireless Access Points located through-out your dealership which have the same SSID. It allows the VAS6154 to automatically switch to another WLAN access point if the connection quality is poor.

Note: You should verify with your IT specialist if your network is configured in this manner.

Prerequisite:

- ☐ VAS 6154 connected to base station with active web Interface session (Ref. Section 2.2 above).

1. Select the **Administration** main category then the **Roaming** subcategory.
2. Place a ☒ in the Activate **Roaming Box**.
3. Leave 15 as the default **Roaming threshold (SNR)**.
4. For the **List of channels (comma-separated)**. Leave this entry blank unless you consult with your IT specialist.

Note: Within a large infrastructure it can be advantageous to narrow down the WLAN channels. Please check with your IT specialist for which channels are appropriate for your dealership.

5. Click **Accept**.

GENERAL SOFTWARE ANALYSIS CONNECTIVITY POWER MANAGEMENT DOCKING STATION **ADMINISTRATION**

System
Communication
Roaming
PINS

Roaming

Roaming configuration

Roaming is the automatic change to another WLAN access point if the connection quality is (too) bad. A wise usage of the functionality requires more than one WLAN access point with the same SSID.

Important: The wrong settings could cause the system to function incorrectly.

Roaming parameters

Activate roaming	☒
Roaming threshold (SNR)	15 dB
List of channels (comma-separated)	

Accept **Reset**

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2.7 – Prevent Communication disconnects during diagnostic sessions

Two suggestions exist if communication is being broken during a diagnostic session.

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Suggestion 1: The workshop's WLAN coverage needs to be improved/upgraded.

We recommend checking and, if necessary, upgrading the WLAN network so that its signal strength is practically identical in all areas. The reason for this is that ODIS breaks off communication with the VCI if the connection signal strength is yellow. A green connection must be guaranteed at all times in order to be able to work with the VCI without any problems.



Suggestion 2: Leave vehicle doors open during the diagnostic session.

It is possible that the vehicle doors may interfere with the WLAN connection between the VAS6154 and tester. Specifically if you've already noticed less than 4 bars of signal strength to the VAS6154. If possible, we recommend leaving the vehicle doors open during vehicle diagnostics.