RENAULT NISSAN MITSUBISHI

RNM VI

MTS 6534 / MTS 6535

BOSCH

en User Manual
RNM VI

M2K

3301 W MacArthur Blvd, Santa Ana, CA 92704 - USA
Tel: +1949 333 3800 - Email: m2k@m2kinc.com
www.M2Kinc.com

1. Symbols Used 3
1.1 Warning Notices - Structure and Meaning 3
1.2 Symbols in this Document 3
1.3 Symbols on the Product 3

2. Warranty information 3
2.1 Agreement 3

4. Safety Instructions 4

3. User Information 4
4.1 Electromagnetic Compatibility 5
4.2 Electronic Waste Disposal 5
4.3 FCC Compliance 5
4.4 Range of application 5

5. Product Description VCI 5
5.1 Intended use 5
5.2 User group 5
5.3 VCI Kit Contents 6
5.3.1 Non-Wireless kits 6
5.3.2 Wireless P2P kits 6
5.4 VCI Connectors and Controls 6
5.4.1 Front and back side 6
5.4.2 VCI without display 6
5.4.3 VCI with display 7
5.5 Universal Serial Bus (USB) 7
5.6 Wireless Local Area Network (WLAN) 7
5.7 VCI Manager Software 7
5.8 Additional VCI Features 7
5.8.1 Data Link Connector and Cable 7
5.8.2 Power Source 7
5.8.3 LED Indicators 7
5.9 LED status 8
5.9.1 LED Power 8
5.9.2 LED Error Indicator 8
5.9.3 LED Vehice Communication 8
5.9.4 LED PC Host Communication 8

6. Product description TS1 Trigger switch 8
6.1 Intended use 8
6.2 Prerequisites 8
6.3 Product description 8
6.4 Operation 9
6.5 Information on Data Protection 9

7. Getting Started 9
7.1 Installing the VCI Manager Software 9
7.2 Setting Up the VCI Hardware 9
7.2.1 Installing Your Wireless Adapter 9
7.2.2 Identifying Your VCI 10
7.2.3 Updating the VCI Software 10
7.2.4 Configuring the VCI using VCI Manager 10
7.2.5 Check PC and VCI Software Versions 11
7.3 Setting Up Wireless Communications 11
7.3.1 Enabling Access Point Wireless Communication 11
7.3.2 Enabling Point-to-Point Wireless Communication 12
7.3.3 Set Factory Default 12
7.4 Connecting the VCI to a Vehicle 12
7.5 Powering the VCI 12

8. Finishing Up 13

9. Troubleshooting 13
9.1 VCI Does Not Pass Power On Self-Test (POST) 13
9.2 VCI Error LED Lights After Power On 13
9.3 VCI Fails to Power Up 13
9.4 Vehicle LED is Blinking Red 13
9.5 Suspected Defective Data Link Connector (DLC) Cable 13
9.6 Wireless Communication with Network Unsuccessful using WLAN dongle 13
9.7 VCI Manager Displays the Yellow Icon over the VCI after previous use 14
9.8 PC Application is Unable to Communicate with the VCI over USB 14
9.9 PC Application is Unable to Communicate with the VCI over Wireless 15

10. Cleaning and Maintenance 15
10.1 Cleaning and Storing 15
10.2 Recovering the VCI Software 15
10.3 Spare and wearing Parts 15
10.4 Recovery Procedure 16

11. Decommissioning 16
11.1 Temporary shutdown 16
11.2 Change of location 16
11.3 Disposal and scrapping 16

12. Glossary 17

13. Hardware Specifications 17

1. Symbols Used

1.1 Warning Notices - Structure and Meaning

Warning notices warn of dangers to the user or people in the vicinity. Warning notices also indicate the consequences of the hazard as well as preventive action. Warning notices have the following structure:

Warning symbol	**KEY WORD – Nature and source of hazard!** Consequences of hazard in the event of failure to observe action and information given. ➢ Hazard prevention action and information.

The key word indicates the likelihood of occurrence and the severity of the hazard in the event of non-observance:

Key word	Probability of occurrence	Severity of danger if instructions not observed
DANGER	**Immediate** impending **danger**	**Death** or **severe** injury
WARNING	**Possible** impending **danger**	**Death** or **severe** injury
CAUTION	Possible **dangerous situation**	**Minor** injury

1.2 Symbols in this Document

Symbol	Designation	Explanation
!	Attention	Warns about possible property damage.
	Information	Practical hints and other useful information.

1.3 Symbols on the Product

! Observe all warning notices on products and ensure they remain legible.

Symbol	Designation
	Read and follow all instructions, warnings and other information in these operating instructions before switching on, connecting and operating VCI.
	The use of VCI and the recording of diagnostic data while driving may only be carried out by trained and instructed workshop staff.
CE	EU
FC	USA
EAC	Russia
	Ukraine
	Australia, New Zealand
	South Korea
	China RoHS

2. Warranty information

2.1 Agreement

By using the product you agree to the following regulations:

Copyright

Software and data are the property of Bosch or its suppliers and protected against copying by copyright laws, international agreements and other national legal regulations. Copying or selling of data and software or any part thereof is impermissible and punishable; in the event of any infringements Bosch reserves the right to proceed with criminal prosecution and to claim for damages.

Liability

All data in this program is based - where possible - on manufacturer and importer details. Bosch does not accept liability for the correctness and completeness of software and data; liability for damage caused by faulty software and data is ruled out. Whatever the event, Bosch liability is restricted to the amount for which the customer actually pays for this product. This disclaimer of liability does not apply to damages caused by intent or gross negligence on the part of Bosch.

Warranty

Any use of non-approved hardware and software will result in a modification to our product and thus to exclusion of any liability and warranty, even if the hardware or software has in the meantime been removed or deleted.

No changes may be made to our products. Our products may only be used in combination with original accessories and original service parts. Failing to do so, will render null and void all warranty claims.

During product warranty period,
Bosch Automotive Service Solutions GmbH will offer an advance exchange service for the VI Hardware ensuring minimum impact on Renault-Nissan dealerships. The repair centers also offer out of warranty repair services and optional warranty extension programs. Replacement parts and repair services are typically provided for three more years after the program has ended. Please ask directly to your responsible service partner.

Defined warranty period
For the VI Variants 5 years, for following accessories 1 year:

- USB cable
- DLC cable
- Trigger Switch
- DLC1 Cable Adapter
- Cigarette Lighter Adapter
- WLAN Dongle
- Bluetooth Dongle
- Micro SD-Card

3. User Information

To increase effectiveness with the VCI, users should familiarize themselves with the format and information contained in this guide. Every attempt has been made to provide complete and accurate technical information based on factory service information available at the time of publication. However, the right is reserved to make changes at any time without notice.

Before starting up, connecting and operating the products it is absolutely essential that the operating instructions/owner's manual and, in particular, the safety instructions are studied carefully. By doing so you can eradicate any uncertainties in handling the products and thus associated safety risks upfront; something which is in the interests of your own safety and will ultimately help avoid damage to the device. When the product is handed over to another person, not only the operating instructions but also the safety instructions and information on its designated use must be handed over to the person.

4. Safety Instructions

Please read and review all instructions, warnings and information included in this manual prior to start-up, connection and operation of the VCI (Vehicle Communication Interface).

This user manual is written for safe convenient setup and use of the product. We recommend that you carefully read the manual prior to using the VCI and software.



DANGER – High Electrical Voltage
Certain risk of personal injury or death
➢ Always consult the vehicle's service manual for safety precautions and procedures when working with high voltage vehicle systems and/or passive restraint devices such as airbags, pretensioners and other deployable devices.



WARNING – Dangerous Exhaust Gas
Possible risk of personal injury or death
➢ When performing any checks with the engine running in an enclosed space such as a garage, be sure there is proper ventilation. Never inhale exhaust gases; they contain carbon monoxide - a colorless, odorless, extremely dangerous gas which can cause unconsciousness or death



WARNING – Parking Brake
Possible risk of personal injury
➢ To help avoid personal injury, always set the parking brake securely and block the drive wheels before performing any checks or repairs on the vehicle.



CAUTION – Battery Clamps - Polarity
Possible risk of personal injury
➢ Do not clasp battery clamps together when connected simultaneously to the vehicle's 12 Volt cigarette lighter or power supply. Reverse polarity in the vehicle's cigarette lighter may be present. Damage could occur to the VCI or to the vehicle. Make sure all cables and adapters are firmly connected before starting to use the VCI Always read the instructions completely before attempting a new procedure.



WARNING – Parking Brake
Possible risk of personal injury
➢ To help avoid personal injury, always set the parking brake securely and block the drive wheels before performing any checks or repairs on the vehicle.

WARNING - Risk of accident when used while driving
Impairment of driving safety and braking effect by connecting cables in the driver's area and distraction when using while driving. Death or serious injury.

- ➢ Place, lay and secure VCI and all connection lines in such a way that there is no impairment of driving safety and braking effect.
- ➢ The use of VCI and the recording of diagnostic data while driving may only be carried out by trained and instructed workshop staff.
- ➢ VCI must be operated by a second person (not driver) while driving.
- ➢ Observe StVO during the entire data recording.

4.1 Electromagnetic Compatibility

The VCI satisfies the requirements of the EMC directive 2014/30/EU The VCI is a class/category A product as defined by EN 61 326. The VCI may cause high-frequency household interference (radio interference) so that interference suppression may be necessary. In such cases the user may be required to take the appropriate action.

4.2 Electronic Waste Disposal

This VCI is subject to European guidelines **2012/19/EU (WEEE)**. Old electrical and electronic devices, including cables and accessories or batteries must be disposed of separately from normal household waste. Please use the return and collection systems in place for disposal in your area.

Damage to the environment and hazards to personal health are prevented by properly disposing of the VCI.

4.3 FCC Compliance

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy. If not installed and used in accordance with the instruction manual, it may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his or her expense. All work conducted on electrical devices may be performed by persons with sufficient knowledge and experience in the field of electronics.

4.4 Range of application

The VCI is intended for indoor use only.

- Do not expose VCI to rain or moisture and prevent the formation of condensation.
- Degree of contamination 2, keep area around VCI clean.

5. Product Description VCI

5.1 Intended use

! If the VCI and the scope of delivery are operated contrary to the way specified by the manufacturer in the operating instructions, the protection provided by the VCI and the supplied accessories may be compromised.

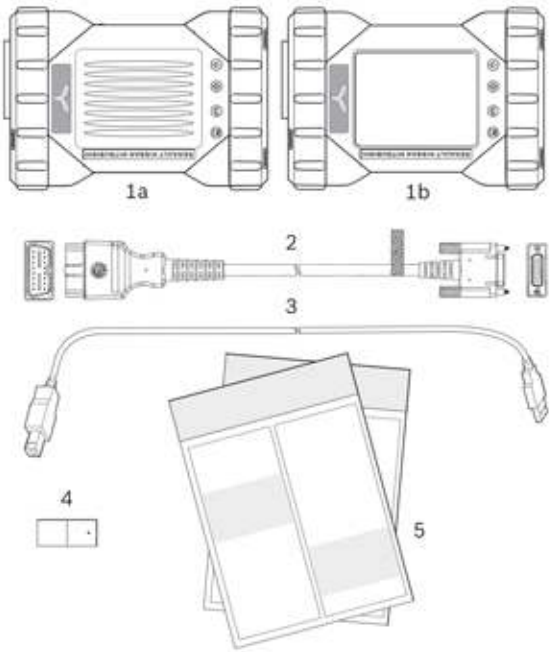
The VCI is a measuring instrument used by professional technicians as an aid in diagnosing and repairing automotive electrical and electronic systems. Additionally, the software application with VCI can be used to measure voltage levels, for example.

5.2 User group

The product may be used by skilled and instructed personnel only. Personnel scheduled to be trained, familiarized, instructed or to take part in a general training course may only work with the product under the supervision of an experienced person.

5.3 VCI Kit Contents

The VCI Base Kit includes cables and hardware needed to transfer data and reprogram ECUs on vehicles of Mitsubishi, Nissan and Renault through the DLC cable.



Pos.	Kit Component	Part Number	Qty
1	VCI with display or without display and with or without wireless adapters (1 x plugged in VCI and 1 attached)	–	1
2	Cable: DLC J1962, VCI, 1.5 m	1 699 200 366	1
3	USB A to USB B, 3 m cable	F-00K-108-653	1
4	Wireless 802.11n, Adapter DWA-131 E1	1 699 200 155	1
5	Operating instructions	1 689 989 355	1
5	Quick start manual	1 689 989 363	1
6	VCI - VCI Manager Software [1]		

[1] *Available through download from http:diesisteinlink (Platzhalter)*

The VCI kit is available in 2 configurations, a Non-Wireless kit and a Wireless P2P kit.

5.3.1 Non-Wireless kits

These kits include the VCI assembly without USB Wireless adapters. The USB Wireless adapters are optional accessories (for part numbers, see "10.3 Spare and wearing Parts").

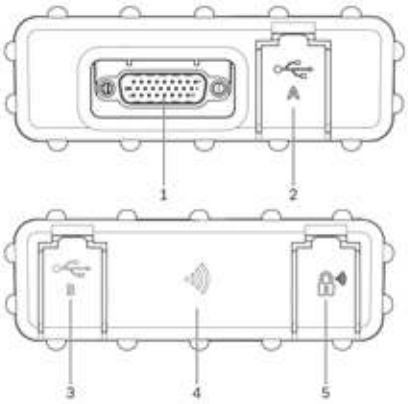
5.3.2 Wireless P2P kits

These kits include the VCI assembly with two USB Wireless adapters (for part numbers, see "10.3 Spare and wearing Parts"). One Wireless adapter is plugged inside the VCI, the second Wireless adapter is attached.

5.4 VCI Connectors and Controls

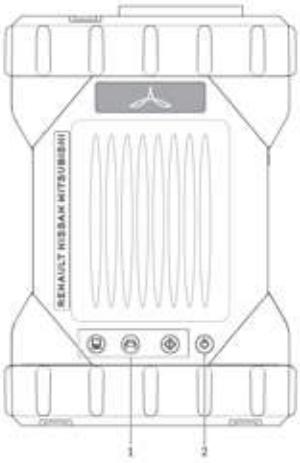
A number of standard connectors and controls are available on the VCI to facilitate operation and communication with vehicles and workshop networks. These connectors and controls are shown in the following illustrations.

5.4.1 Front and back side

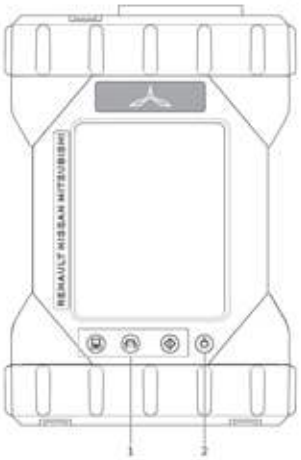


Pos.	Description
1	DB26 Connector (DLC Cable)
2	USB Port Type A (to connect the trigger switch)
3	USB Port Type B (to connect to a PC / Laptop)
4	Wireless Adapter (below the boot)
5	Ethernet Port (LAN)

5.4.2 VCI without display



5.4.3 VCI with display



Pos.	Description
1	LED error indicator, vehicle and pc host communication
2	LED Indicator Power

5.5 Universal Serial Bus (USB)

The VCI has a fixed USB configuration which cannot be changed. This ensures that the VCI can always be connected to a single PC running the VCI Manager software so you can configure WLAN settings required by your local network. In addition, it is important to note that a USB connection is required to configure and update the firmware on the VCI. USB connection must be made directly with the PC port. Do not connect through a USB hub.

5.6 Wireless Local Area Network (WLAN)

The 802.11g WLAN connection on the VCI is set up and configured while the device is connected over USB to a PC running the VCI Manager software.

5.7 VCI Manager Software

The VCI Manager software is a host computer application which runs on the Microsoft Windows operating system to configure and update VCIs. The VCI Manager software allows the configuration of VCI-to-host PC communications and facilitates VCI firmware updates.

5.8 Additional VCI Features

5.8.1 Data Link Connector and Cable

The Data Link Connector Cable is the external test equipment (OBD) cable that connects the VCI to the vehicle's SAE J1962 Data Link Connector (DLC).

5.8.2 Power Source

The VCI is intended to be powered from the vehicle battery via the DLC Cable for normal use. If the VCI does not have sufficient power (12 V) to perform vehicle diagnostics, the VCI will inform you of insufficient power for diagnostics by blinking the Vehicle LED in the color Red. This scenario can be seen when the VCI is only powered from the 5 V USB connection to the PC.
The VCI may be powered over USB only to perform firmware updates from your PC. 12 V power can be supplied by the vehicle DLC.

Some IMPORTANT information about powering your VCI:

- 12 V is required for Vehicle Communication
- 12 V is required for Wireless Configuration and use
- 5 V or 12 V required for VCI firmware Update or Recovery

5.8.3 LED Indicators

Seven Light Emitting Diodes (LEDs) are located on the front of the VCI. The LED indicators provide the following status information.

LED Symbol	Function
	Vehicle Communication
	Error Indicator
	PC Host Communication
	Power

5.9 LED status

5.9.1 LED Power

Color	Status	Function
Off	-	VCI is not powered or overvoltaged. If overvoltaged, Error LED indicator lights up.
Green	Lights up	VCI is correctly powered via PC or vehicle.

5.9.2 LED Error Indicator

Color	Status	Function
Off	Off	No error
Red	Lights up	• Check completed and firmware failed to load, system failed to start properly, firmware mismatch. • Check is not OK. • Recovery active. • Overvoltage on at J1962 connector.

5.9.3 LED Vehicle Communication

Symbol	Color	Function
Off	-	No active vehicle communication.
Green	initially Lights up	VCI is powered by vehicle and has established communication with vehicle.
	Flash	Active Vehicle communication (DIAG mode).
Amber	Flash	active reprogramming (RP mode by VCI script engine).
White	Flash	active Vehicle data recording (VDR mode by VCI script engine).
Red	Flash	VCI is not able to perform vehicle communication.

5.9.4 LED PC Host Communication

Symbol	Color	Function
Off	-	no active host communication.
Green	Flash	VCI is connected to the PC via PDU or J2534 or VCI Manager Application.
	Lights up	successful connection to workshop access point (infrastructure mode) in use case "mobile device".
Red	Flash	Failed connection to workshop access point (infrastructure mode) in use case "mobile device".

6. Product description TS1 Trigger switch

6.1 Intended use

The TS1 Trigger switch and MTS 6534/6535 permit the read-out and display of emission-related diagnostic data via the OBD interface of gasoline and diesel passenger vehicles. This diagnostic data can help to establish the cause of problems in the vehicle.

! Use of TS1 Trigger switch and MTS 6534/6535 and recording of diagnostic data while driving may only be performed by trained and instructed employees of the service workshop.

6.2 Prerequisites

OBD interface (OBD-2 or EOBD) for the vehicle to be tested and MTS 6534/6535.

6.3 Product description



Fig. 1: TS1 Trigger switch

1 USB connection to MTS 6534/6535
2 LEDs for status lights, illumination of LED depends on the application and the step used (see instructions for specific test step)
3 Recording button

6.4 Operation

WARNING - Risk of accident when used while driving
Impairment of driving safety and braking effect by connecting cables in the driver's area and distraction when using while driving. Death or serious injury.

- ➢ Place, lay and secure TS1 Trigger switch and all connection lines in such a way that there is no impairment of driving safety and braking effect.
- ➢ The use of TS1 Trigger switch and the recording of diagnostic data while driving may only be carried out by trained and instructed workshop staff.
- ➢ TS1 Trigger switch must be operated by a second person (not driver) while driving.
- ➢ Observe StVO during the entire data recording.

Use of VCI and MTS 6534/6535 and recording of diagnostic data while driving may only be performed by trained and instructed employees of the service workshop.

1. Connect the TS1 Trigger switch to the USB port on the MTS 6534/6535 (fig. 2, item 2).

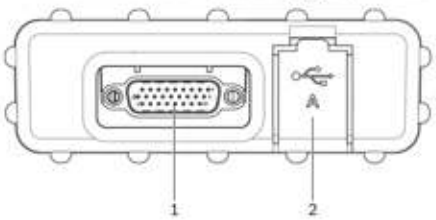


Fig. 2: MTS 6534/6535

   ⇨ A short beep sounds and both LEDs light up and then go dark.
2. To record vehicle malfunctions, press the recording button 1 time.
3. To end recording, press the recording button again.
4. Evaluate the recorded data with the aid of VCI software.

6.5 Information on Data Protection

The data processing performed by this device may be protected by regional data protection regulations. Processed categories of data are vehicle master data (data generated in the vehicle during manufacturing like the vehicle identification number VIN), and vehicle event data (data generated by the vehicle after manufacturing). The processing purpose is vehicle diagnosis.

7. Getting Started

The following sections provide the information needed to begin using the VCI including installing the VCI Manager software, updating the firmware on the device, configuring connection methods, and communicating with the vehicle.

Before operating your VCI we recommend visiting the http://placeholder-link for ADT-website to see if a newer version of the VCI firmware is available for your VCI

7.1 Installing the VCI Manager Software

The VCI Manager software is installed on the PC and provides access to the VCIs located on your network. The VCI Manager must be installed on the PC in order to configure, update and run diagnostic applications targeted for the PC. Initially you use the VCI Manager software to set up the configuration of each VCI. The VCI Manager is also used to update the firmware on the VCI. Use the following procedure to install the VCI Manager software on your PC.

1. Double-click the setup file and follow the instructions on the screen.
2. The InstallShield wizard displays a panel indicating that the program is ready to be installed. Click Install to proceed with the installation. A progress bar shows the status of the installation. [You can click Cancel if you want to halt the installation process. You are prompted to respond if you are sure you wish to cancel the installation.]
3. Click Finish to complete the installation. The InstallShield Wizard places the VCI Manager icon on your desktop.

7.2 Setting Up the VCI Hardware

7.2.1 Installing Your Wireless Adapter

The wireless adapter must be installed into the VCI before you can use the wireless features. Use the following procedure to install the wireless adapter into your VCI.

1. Ensure power is removed from VCI.
2. Remove the lower boot from the VCI.
3. Install the wireless adapter into the USB port.
4. Replace the lower boot on the VCI.

If you have a wireless VCI kit and are planning to use Point-to-Point wireless communication, you must install the second wireless adapter from your kit into the PC. Use the following procedure to install your wireless adapter into your PC.

1. Identify a USB 2.0 port on your PC that is accessible. Do not plug wireless adapter into a USB hub.

2. Install the wireless adapter into the PC USB port. You may have to wait for your PC to install and configure the wireless adapter driver onto your PC.

You should always use Windows to Safely Eject the wireless adapter before physically removing it from your PC.

7.2.2 Identifying Your VCI

The VCI label is located on the back of the VCI. The VCI identification number has two parts: a manufacturing code for traceability and a unique serial number. The serial number is used to identify the VCI in the VCI Manager software. You will need to refer to this serial number when you are using VCI Manager to configure the VCI and perform software updates.

7.2.3 Updating the VCI Software

The VCI is shipped from the factory without firmware. Before operating your VCI we recommend visiting the http://placeholder-link for ADT-website to see if a newer version of the VCI firmware is available for your VCI. Your first connection is to the PC where you have installed VCI Manager software. You will need the USB cable to configure your VCI using VCI Manager.

Use the following procedure to update the firmware on your VCI.

1. Power on your VCI and connect it to the PC using the USB cable.
2. Make sure, the current version of VCI Manager is instaled on the PC. If necessary update to the current version.
3. Select the VCI Manager icon from the PC Desktop.
   ⇨ The VCI will boot in Recovery Mode (only in factory setup).
4. When you click on the new VCI, the Connect button will change to the Recover button. Your VCI will be displayed without the serial number when initially connected to VCI Manager.
5. Select the Recover button to start the update process.
6. Select the Start Update button to install firmware on the VCI.
7. Do not unplug the VCI from the PC or remove power from the VCI during the update process. Select OK to continue.
8. The update process will take about 5 minutes to complete. Once the update process is complete the VCI will automatically reboot. Wait until you hear the beep from the VCI before proceeding to use your VCI.

7.2.4 Configuring the VCI using VCI Manager

In order to configure a VCI to communicate on your network you must connect the VCI, via USB, to a PC running VCI Manager software. The VCI Manager icon displayed on the VCI will inform you of the communication method to be used if the <Connect> button is selected.

Icon	Description
	VCI Manager will connect to VCI via USB
	VCI Manager will connect to VCI via Ethernet
	VCI Manager will connect to VCI via Wireless
	Wireless Point-to-Point is not set up. Connect VCI to the PC using USB cable to complete set-up.
	Wireless adapters in the PC and in the Tester are incompatible with each other.
	VCI Manager is connected to the VCI

Use the following steps to configure your VCI.

1. Double-click the VCI Manager icon on your desktop to launch the VCI Manager software.
2. In the VCI Manager software VCI Explorer tab, select the VCI in the window. Click the Show Details button to see details about the selected VCI.
3. Click the Connect button to connect to the selected VCI over USB. The VCI is displayed in the VCI Manager software with a green check mark on your display indicating that your VCI Manager software is in control of that VCI. Note: If your VCI is connected to another networked PC, it will still be detected by the VCI Manager but will not be available for selection. [If your VCI is connected via USB to your computer, the VCI Manager functions on all tabs are available; if your VCI is not connected via USB, the functions on the Network Setup and VCI Update tabs are not available.]

7.2.5 Check PC and VCI Software Versions

Typically, the VCI Manager software installed on your PC and the software installed on the VCI must have matching versions in order for the VCI to operate properly. Use the following steps to check your software versions.

1. Connect the VCI to your computer via USB cable.
2. Double-click the VCI Manager icon on your desktop to launch the VCI Manager software.
3. On the VCI Explorer tab, select your VCI in the window.
4. Click the Show Details button to see the detail view of the selected VCI.
5. The VCI Detailed View window shows the PC S/W Version information for the VCI Manager software and the VCI firmware Version for the VCI as well as available interfaces and IP addresses. If both the VCI Manager software version and the VCI software version match, you can use your VCI with this PC.

7.3 Setting Up Wireless Communications

The VCI is capable of communicating on your workshop network over Wireless. The Network Setup tab in the VCI Manager software provides a number of functions used to select and configure the VCI network connection interfaces including wireless access and security settings.

You must be connected to the VCI via USB to access the settings on the Network Setup tab. If you are not connected via USB, the controls on the Network Setup tab are disabled.

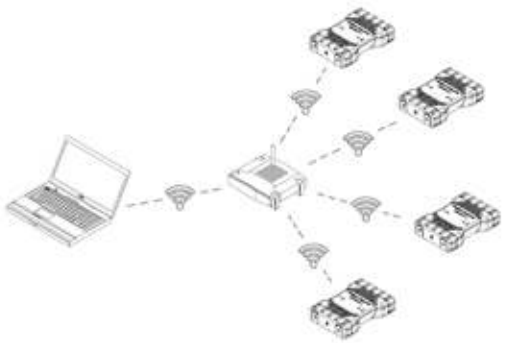
The VCI supports two methods for wireless communication. With the Access Point Wireless Communication method the VCI connects to your PC through an access point in your workshop. With the Point-to-Point Wireless Communication method the VCI connects to your PC directly using a USB wireless adapter. Each of these methods are described in the following sections.

7.3.1 Enabling Access Point Wireless Communication

Your VCI can be configured for Access Point Wireless Communication. Before starting, please verify the following:

- An IP Address and Subnet Mask to assign to your VCI (if your LAN does not automatically assign IP addresses)
- Wireless communication access point SSID (network name)
- Required network authentication is WPA2
- Required data encryption is TKIP or WEP (64-bit or 128-bit)
- Wireless security password (encryption key)

The illustration below shows several VCIs connected to a single laptop PC using a wireless access point.



Use the following procedure to configure your VCI for wireless communication in your environment. Before modifying the VCI communications interface, contact your IT Administrator.

1. Start the VCI Manager software by clicking on the VCI Manager icon.
2. Plug the VCI into external 12 V power.
3. Plug the USB cable into the PC and VCI and allow the VCI to boot completely.
4. Select and Connect to your VCI in the VCI Manager software VCI Explorer tab.
5. Select the Network Setup tab.
6. From the Wireless tab, select the Enable Wireless Interface check box in the Interface Control section. Once you enable the interface, the IP Address Configuration box and the Apply and Cancel buttons become active.
7. Select Obtain an IP address automatically if your LAN automatically assigns IP addresses. Otherwise enter the assigned IP Address and Subnet mask given to you by your IT Administrator.
8. Select Access Point to begin wireless access point configuration.

9. Specify the network name:
   - If your access point uses a hidden SSID or if you are not within range of the access point you will select the Enter Network Name [SSID]: radio button and type the network name.
   - If you are within range of your wireless access point, choose the Select from available network list radio button and then select Refresh to cause the VCI to search for wireless network signals. The detected networks are displayed in the Network Name box.
10. After you have entered the network name, select Configure.
11. Enter the security settings that are required by your network, then select Next.
12. Select Yes to reconfigure your VCI, or if you want to start over select No.
13. Choose the Properties tab to verify that the VCI is configured correctly. You can also disconnect the USB cable to verify that the wireless connection is working.
14. Record or print your settings as they are displayed on the Properties tab for future reference.

7.3.2 Enabling Point-to-Point Wireless Communication

Your VCI can be configured for Point-to-Point Wireless Communication. Before starting, please verify the following:

Your VCI kit is on of the Wireless-Point-to-Point kits (for part numbers, see "10.3 Spare and wearing Parts") which includes the VCI assembly with two Wireless 802.11n USB Adapters.

The following illustration shows a single VCI connected to a laptop PC using Point-to-Point Wireless communication.



If you need to re-configure Point-to-Point on your VCI, use the following procedure. Note that the steps presented below may slightly differ depending on your version of the Windows operating system.

1. Insert the Wireless USB adapter in an available USB port on your PC. Do not plug the wireless adapter into a USB hub.
2. Power-on your PC.
3. Connect the VCI to your PC using the USB cable and allow the VCI to boot completely. Do not plug the VCI USB cable into a USB hub.
4. Start the VCI Manager software by double-clicking the icon on the PC desktop.
5. The Point-to-Point connection is automatically configured. Wireless communication will be available when you are powered through the DLC Cable.

If you have the need to reset your Point-to-Point passphrase, you can use the following steps. Note that the steps presented below may slightly differ depending on your version of the Windows operating system.

1. Right click the Wireless Networks Icon on the right hand side of the taskbar.
2. Select Open Network and Sharing Center.
3. Select Manage Wireless Networks from the left column.
4. Select Change adapter menu and choose VCI from the list.
5. Remove your stored Point-to-Point network. The name will contain VCI and the last 8 digits of the VCI serial number, (VCIxxxxxxx).
6. When you reconnect the VCI to the PC using the USB cable, a new passphrase will be established.

7.3.3 Set Factory Default

Selecting the Set Factory Default button on the Network Setup tab reconfigures your VCI to the Point-to-Point communications settings it had when it left the factory. Any software upgrades that have been installed to the VCI are still installed. When the VCI reset is finished, the VCI Manager software displays the VCI Explorer tab. All wireless AP configurations will be lost.

7.4 Connecting the VCI to a Vehicle

The VCI Vehicle Communication Interface kit contains an external test equipment (OBD) cable that connects the VCI to the vehicle's SAE J1962 Data Link Connector (DLC).

Refer to the electrical wiring diagram for the vehicle you are testing to determine the location of the DLC on the vehicle.

1. Connect the 26-pin end of the OBD-cable to the top of the VCI, then tighten the screws.
2. Connect the 16-pin end of the OBD-cable to the vehicle DLC connector.

7.5 Powering the VCI

The VCI will be powered by the vehicle's 12 V/24 V battery.

8. Finishing Up

After using the VCI, a few simple steps help you leave the vehicle electronic system(s) in the proper state and ensure that you get the most use out of your diagnostic tools:

1. Before turning the VCI off, exit any running PC computer applications.
2. Turn the VCI off by removing power. The Power LED turns off.
3. Disconnect the VCI's DLC cable from the vehicle.
4. Disconnect the USB cable from the PC and the VCI.
5. Store the VCI, cables, and other parts in a secure, dry location.

9. Troubleshooting

This section is intended to help you get back on track if the VCI appears to be operating abnormally. In addition, the most likely cause for the condition is given as well as other possible causes and recommendations on how to isolate or eliminate the problem.

9.1 VCI Does Not Pass Power On Self-Test (POST)

Most Likely Cause:
- Internal problem in the VCI.

Recommendations:
➢ Connect the VCI to a PC using USB and perform the recovery procedure.

9.2 VCI Error LED Lights After Power On

Most Likely Cause:
- A problem has been detected during power on.

Recommendations:
➢ Power down the VCI and verify that it has the same problem when you power up again.
➢ Connect the VCI to a PC using USB and perform the recovery procedure.

9.3 VCI Fails to Power Up

The VCI should power up as soon as external power is applied. If the VCI does not turn on, first check the cable connections. Try supplying power to the VCI from two different power sources– the vehicle DLC connector and the USB connector.

Recommendations:
➢ Check that the cables are securely attached to the VCI and the connector pins are clean.
➢ If connecting to the vehicle DLC connector, try powering from the USB connector.
➢ If powering from USB, try powering from the vehicle DLC connector.

9.4 Vehicle LED is Blinking Red

If the VCI does not detect 12 V/24 V on Pin 16 of the DLC cable, the VCI will inform the user by automatically turning on and blinking the Vehicle LED red. This condition might be seen if the VCI is only powered by a 5 V USB connection. When the VCI detects 12 V on Pin 16, the Vehicle LED will stop blinking red.

Recommendations:
➢ Ensure 12 V is applied to Pin 16 of the DLC cable.

9.5 Suspected Defective Data Link Connector (DLC) Cable

If you suspect a defective DLC Cable, you should perform a reference test with a sceond Data Link Connector Cable.

Recommendations:
➢ Connect to the vehicle using another Data Link Connector Cable. If Connection is successful exchange the defect Data Link Connector Cable.
➢ Connect to a different vehicle, to make sure that the vehicle connector does not cause any problems.

9.6 Wireless Communication with Network Unsuccessful using WLAN dongle

The WLAN dongle is not intended to be used for PC wireless communication to a network. The WLAN dongle is only intended to be used with the VCI for Point-to-Point communication or Infrastructure wireless communication.

Recommendations:
➢ Make sure you do not have two wireless dongles connected to the PC.
➢ Make sure you are not trying to connect the PC to your dealership network using the WLAN dongle.

9.7 VCI Manager Displays the Yellow Icon over the VCI after previous use

There may be instances when Windows does not recognize the installation of the WLAN wireless adapter. In these cases, Windows may create a new wireless profile instead of using the existing one already stored on the PC. The yellow icon displayed over your VCI instructs you to plug in the USB cable between the VCI and the PC.

Recommendations:

➢ Always use Windows to safely Eject the wireless adapter before physically removing it from your PC.

➢ Unplug and then re-install your wireless adapter. Windows will attempt to recognize the wireless adapter. If successful, the yellow icon will disappear and the VCI will be ready for wireless Point-to-Point communication.

9.8 PC Application is Unable to Communicate with the VCI over USB

VCI Manager Software must be installed on the PC, and the VCI must be powered up before it will communicate. The VCI must be configured through USB before it will communicate using any other connection types.

Recommendations:
If other applications including the VCI Manager are able to connect to the VCI then:

➢ Check the Windows Firewall settings to see if the application is being blocked.

If all installed applications are unable to communicate with the VCI then:

➢ Connect the VCI to the PC using USB but do not connect it to the vehicle, Do not connect through a USB Hub or a repeater cable.

➢ Verify that the USB cables are securely attached and the VCI has completed its power up sequence

➢ Launch the VCI Manager Application

➢ Does VCI Manager detect the VCI?

If NO, then:

➢ Try a different USB Cable / Port on the PC

➢ Check the Windows Firewall to see if the VCI Manager is Blocked. Check that the VCI USB connection is detected by Windows:

➢ From the Windows Control Panel, open the Network and Dial-up Connections window.

➢ Check for device name "VCI". If not running, then the USB driver has not been loaded on the PC. Perform the following troubleshooting steps.

1. Unplug the USB cable from the PC and plug it back in to the same USB port on the PC. Continue if not resolved.
2. Unplug the USB cable from the PC and plug it back in to a different USB port on the PC. Continue if not resolved.
3. With the VCI plugged into the PC with a USB cable, open the device manager from the Windows control panel. In device manager search for an unknown or improperly configured device. The VCI will likely be detected as one of the following:
   - Other device – RNDIS Gadget with a yellow exclamation icon
   - Universal serial bus controllers – Unknown USB Device

Right click on the device name in device manager > Update Driver > Browse my computer for driver software > Browse > C:\Program Files (x86)\Bosch Software\USBDriver

4. Plug a different VCI device (VCI #2) into the PC (PC #1). Continue if not resolved.
5. Plug the original VCI device (VCI #1) into a different PC (PC #2) with VCI Manager software installed on it.
6. Contact Technical Support.

If YES, then:

➢ Test if connection lost when the VCI is connected to the Vehicle, then...
   - Check for Ground faults - (Battery Chargers, Hoists...) This issue may be resolved by correcting the ground fault or configuring the VCI to connect wireless.
   - Check for an improperly wired DLC connector

If the VCI Manager is still not able to communicate with the VCI, perform the Recovery Procedure on the VCI.

9.9 PC Application is Unable to Communicate with the VCI over Wireless

Check that the wireless card is properly seated in the VCI.

- Confirm the VCI can connect over USB

If using point to point confirm the PC has a single dongle connected:

➢ Connect the VCI to the PC using USB

➢ Confirm the communication is enabled and the IP configuration is properly set using the VCI Manager software

If using infrastructure wireless:

➢ Contact your IT department and check that your PC is detecting the wireless access point, and the correct security settings have been configured for the VCI.

10. Cleaning and Maintenance

10.1 Cleaning and Storing

The housing of the VCI module and the trigger switch may only be cleaned using a soft cloth and a neutral cleaning agent. Do not use any abrasive cleaning agent or rough cleaning cloths.

There are no user serviceable components inside the VCI Vehicle Communication Interface or the trigger switch. Do not open the devices. Opening the devices will void the warranty.

- If the VCI, connectors, or cables become dirty, they may be cleaned by wiping them with a rag lightly coated with a mild detergent or non-abrasive hand soap.
- Do not immerse the VCI or any of its parts or accessories in water.
- Although the VCI and accessories are water resistant, they are not waterproof; thoroughly dry them prior to storage.
- Avoid using harsh solvents such as petroleum based cleaning agents, Acetone, Benzene, Trichloroethylene, etc.

10.2 Recovering the VCI Software

As a result of a power failure or a communications error during a software update, the VCI software may become corrupted. You may see several symptoms such as error messages directing you to go to RECOVERY mode or an inability to connect to a detected VCI.

The following two error messages generally occur during VCI Tester Software download. If you see either of these messages, perform the Recovery Procedure.

- "Error reprogramming the VCI. Go to Recovery Mode."
- "There was a problem reprogramming the VCI"

10.3 Spare and wearing Parts

Component	Part Number Renault	Part Number Nissan
OBD-Cable DLC J1962, VCI, 1.5 m [1]	7711392598	1699.200.366-879
USB A to USB B, 3 m cable [1]	7711392597	F-00K-108-653-879
Wireless Adapter 802.11n [1]	7711392599	1687.010.590-760
DLC1 Cable Adapter [1], [2]	7711392595	1687.010.604-GS0
Cigarette Lighter Adapter [1], [2]	7711392593	1687.010.605-GS0
Trigger Switch [1], [2]	7711392594	1687.010.606-GS0

[1] *Wearing part*

[2] *Special accessorie*

10.4 Recovery Procedure

Use the following procedure to recovery the software on the VCI.

1. Press and hold the Power button of the VCI down. Release the button when the red Error LED is illuminated. After Error LED is illuminated, the VCI is ready for recovery and the Error LED will remain on.
2. Start the VCI Manager software by clicking the VCI Manager icon on your desktop. Your VCI must be connected via USB or it will not be recognized.
3. When the VCI is detected by the VCI Manager software, the icon will be labeled with "Recover".
4. Select the VCI without the serial number and click the Recover button. The VCI Manager software switches automatically to the VCI Update tab.

The Recovery Procedure removes any embedded application software loaded on the VCI. Your network settings will be retained.

5. Select the latest version of the VCI Recovery Image and click Start Update. Do not unplug the VCI from the PC or remove power from the VCI during the recovery process.
6. When you see the message indicating that the VCI will automatically restart, click OK. The VCI Manager software switches automatically to the VCI Explorer tab, and your VCI appears when it has finished the restart and Power On Self Test (POST).

11. Decommissioning

11.1 Temporary shutdown

In the event of lengthy periods of non-use:

➢ Disconnect the VCI from the voltage supply.

11.2 Change of location

➢ If the VCI is passed on, all the documentation included in the scope of delivery must be handed over together with the unit.

➢ The VCI is only ever to be transported in the original or equivalent packaging.

➢ Unplug the electrical connection.

➢ Heed the notes on initial commissioning.

11.3 Disposal and scrapping

1. Disconnect the VCI from the voltage supply.
2. Dismantle the VCI and sort out and dispose of the different materials in accordance with the applicable regulations.

VCI, accessories and packaging should be sorted for environmental-friendly recycling.

➢ Do not dispose VCI into household waste.

Only for EC countries:

The VCI is subject to the European directive 2012/19/EC (WEEE).

Dispose of used electrical and electronic devices, including cables, accessories and batteries, separately from household waste.

➢ Make use of the local return and collection systems for disposal.

➢ Proper disposal of VCI prevents environmental pollution and possible health hazards.

12. Glossary

Here is a glossary of terms commonly used in the Automotive Diagnostics industry.

TERM	DESCRIPTION
TERM	DESCRIPTION
AC	ALTERNATING CURRENT
BAUD RATE	THE SPEED AT WHICH DATA IS TRANSFERRED OVER A SERIAL DATA LINK
BPS	BITS PER SECOND
CURSER	HIGHLIGHTED TEXT OR DATA ON A DISPLAY SCREEN
DC	DIRECT CURRENT
DCE	DATA COMMUNICATION EQUIPMENT
DLC	DATA LINK CONNECTOR
DTE	DATA TERMINAL EQUIPMENT. A TERM USED TO DESCRIBE A DEVICE CONNECTED TO AN RS232 LINK.
ECM	ENGINE CONTROL MODULE
ECU	ENGINE CONTROL UNIT
EEPROM	ELECTRONICALLY ERASABLE PROM
ETHERNET	STANDARDIZED IEEE 802.3 TWISTED-PAIR WIRE FOR CONNECTING SYSTEMS TO A NETWORK.
HZ	HERTZ - A UNIT OF MEASURE FOR FREQUENCY
I/F	INTERFACE
I/O	INPUT/OUTPUT
I/P	INSTRUMENTATION PORT
LAN	LOCAL AREA NETWORK
LED	LIGHT-EMITTING DIODE
OBD	ON BOARD DIAGNOSTICS
OEM	ORIGINAL EQUIPMENT MANUFACTURER
P-to-P,P-2-P, P2P	PEER-TO-PEER NETWORK
PC	PERSONAL COMPUTER
RCV	RECEIVE
RS232	SAME AS RS232C
RS232C	THE MOST STANDARD SERIAL COMMUNICATION INTERFACE USED IN THE COMPUTER INDUSTRY
SCI	SERIAL COMMUNICATION INTERFACE
USB	UNIVERSAL SERIAL BUS - A COMMON STANDARD FOR INTERFACING WITH A PC
VCI	VEHICLE COMMUNICATION INTERFACE
VCI MANAGER	PC SOFTWARE THAT CONFIGURES, TESTS, AND UPDATES THE VCI
VDC	VOLTS DC
WLAN	WIRELESS LOCAL AREA NETWORK

13. Hardware Specifications

The following table lists the various hardware characteristics of the VCI.

VCI Hardwre SPecifications	
HOST INTERFACE	
Wired	USB High Speed Client Port (480 Mbps)
Wireless	802.11b/g/n on USB Dongle Bluetooth Version 2.0 EDR on USB Dongle
PROCESSOR SYSTEM	
Microprocessor Type	I.MX6 Processor
Clock Speed	800 MHz
RAM	SDRAM : 1 Gbyte DDR3:
ROM	NAND Flash: 512 Mbytes
Mass Storage	8 Gbytes Micro SD Card
USER INTERFACE	
LED	4 LED's - two LED's are triple color
Audio	Beeper (software frequency controlled)
Switch	Recovery switch (for restoration of fail-safe software)
POWER	
Vehicle	From vehicle battery via DLC
External	USB power
MECHANICAL CHARACTERISTICS	
Size	171mm x 118mm x 41mm
Weight	240 grams
POWER SUPPLY	
From the vehicle battery using the diagnosis connection cable or from the PC using a connected USB cable. ***Caution:*** The diagnostic connector of the vehicle must be protected by a fuse with a max. rating of 6 amps / 32 volts.	8 V to 28 V
Power Supply	750 mA
Operating Temperature	-20 °C – +70 °C
Storage Temperature	-40 °C – +80 °C
Humidity at 25 °C	30% – 95%
Maximum operating altitude	4000 m
Degree of protection with the diagnostic connection cable ***not connected***	IP 30
Degree of protection with the diagnostic connection cable ***connected*** according to IEC 60529	IP 54, cat. 2
Degree of contamination	2
DIAGNOSIS CONNECTION CABLE	
J1962 (ISO 15031-3) Voltage resistance	DLC 26 Pin 18 V, CAT 0

TS1 Trigger switch Hardware SPecifications	
MECHANICAL CHARACTERISTICS	
Size	176 x 26 mm 2,8 x 1,0 inch
Weight	0,1 kg 0,2 lb



3301 W MacArthur Blvd, Santa Ana, CA 92704 - USA
Tel: +1949 333 3800 - Email: m2k@m2kinc.com
www.M2Kinc.com