

PicoDiagnostics[®]

NVH Diagnostics Kits

Quick Start Guide



1. Introduction

Thank you for buying a PicoDiagnostics NVH Kit. This Quick Start Guide will help you set up your NVH Interface and your PicoScope Automotive Oscilloscope. In conjunction with this guide, please also see the NVH section of the *PicoDiagnostics User's Guide* (installed with the software).

2. Safety warnings

Please review the following safety precautions to avoid injury and prevent damage to your NVH equipment.

A **WARNING** identifies conditions or practices that could result in injury or death. A **CAUTION** identifies conditions or practices that could result in damage to the product or equipment to which it is connected.



WARNING

WARNING

Strong magnetic fields may affect or disable the operation of pacemakers, ICDs and other implanted medical devices. To avoid injury or death do not use this product if you or other people nearby are fitted with such devices.

The magnet can attract metallic objects or other magnets from large distances, causing trapping injuries unless care is taken when handling.



WARNING

To avoid an accident do not operate PicoDiagnostics or the kit while driving the vehicle. Take a passenger with you to operate the software.



CAUTION

To prevent damage or measurement errors make sure that you only use sensors approved by Pico Technology with this unit.

To avoid entrapment take care to route any cables away from moving parts when you use the propshaft balancing accessories.

To avoid melting of cables take care to route them away from hot engine components when you use this product.

In order to protect the NVH magnet as well as nearby objects, make sure that the keeper is fitted to the magnet when it is stored or in transit.

To conserve battery life do not store the NVH interface with a sensor connected. The interface is powered on whenever the sensor is connected.

Do not apply a voltage to the BNC or sensor connectors on the NVH interface. The BNC connectors are outputs only.

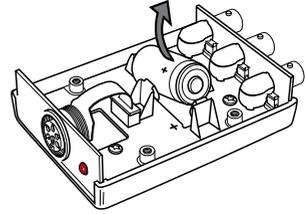
Strong magnetic fields can damage sensitive electronic devices and magnetic material such as credit cards or portable storage media.



Your help and efforts are required to protect and keep our environment clean. Therefore either return these product at the end of life to the manufacturer or ensure WEEE compliant collection and treatment yourself. Do not dispose of as unsorted municipal waste.

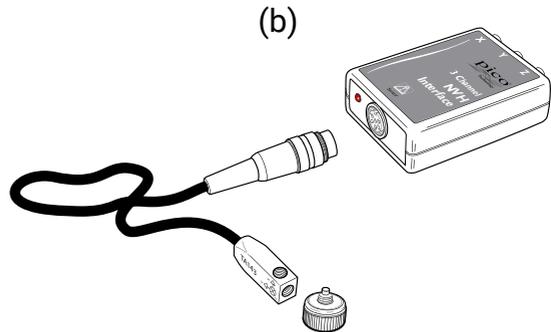
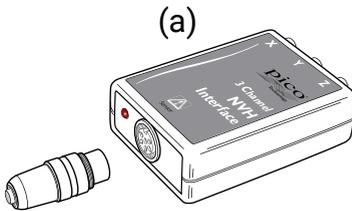
3. Battery replacement

1. Place the NVH Interface face down and remove the four securing screws.
2. Remove the base cover from the NVH Interface.
3. Lift the old battery away from the connections.
4. Place the new battery in position. Make sure it has the correct orientation.
5. Replace the base cover and secure it.



4. Connections

1. Connect the oscilloscope to your computer with the blue USB cable supplied with the oscilloscope.
2. Connect the NVH Interface box to the PicoScope with the supplied BNC cables. You will require one BNC cable when you use a microphone and up to three when you use an accelerometer.
3. Connect either the microphone (a) or the accelerometer (b) to the NVH Interface. **Note:** The extension cable provided may be used to extend the reach of either the microphone or the accelerometer.
4. Run the PicoDiagnostics software.



5. NVH Magnet mounting instructions

1. Check that the mounting surface for each magnet is flat and free from contamination.
2. Slide the keeper off the mounting magnet(s).
3. Mount the magnet/sensor assembly to the prepared test surface by gently rolling it into place. This will avoid damaging the surface.

Note: With a non-metallic surface, such as alloy sub-frames, it may be possible to fix a small steel disk to the chassis with cyanoacrylate glue that you can use as a mounting location.

6. Troubleshooting

Problem	Check	Action	
NVH Interface not working	Is the LED flashing?	Yes	Check BNC lead
		No	Connect/change sensor
			Check sensor connection to interface is secure
			Check battery orientation
			Replace battery

7. Specifications

Weight:	NVH Interface Accelerometer Microphone	120 g 80 g 20 g
Dimensions:	NVH Interface (including BNCs) Microphone Magnet (including grub screw)	105 mm x 65 mm x 27 mm 43 mm x ø17 mm 12 mm x ø18 mm
Sensor extension lead length		3 m
Battery type		CR123(A) 3 V lithium primary cell, user-replaceable
Typical battery life:	Shelf life Vibration mode Microphone mode	10 years 6 months 2 months
Maximum measurable acceleration		5 g
Output BNCs		0 to 2 V, DC-coupled
Vibration frequency range (-3 dB)		DC to 350 Hz
BNC overvoltage protection		30 V
Accelerometer head shock survivability		10 000 g
Accelerometer head operating temperature range		-40 °C to +85 °C
Accelerometer thread mounting		¼" x 28 UNF
Microphone sensitivity		45 mV/Pa, nominal, at 1 kHz
Approvals		CE: Meets EN61326-1:2013 and EN50581:2012 (RoHS)

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Manufactured in the United Kingdom.

