

PicoDiagnostics[®]
NVH accelerometer 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 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 the 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 the PicoDiagnostics Kit while driving the vehicle. Take a passenger with you to operate the software.



CAUTION

To prevent damage or measurement error ensure that only Pico Technology approved sensors are used with this unit.

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

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

In order to protect the NVH magnet itself and nearby objects, ensure that when in storage and in transit the keeper is fitted to the magnet.

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.

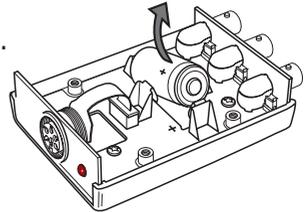


Your help and efforts are required to protect and keep our environment clean. Therefore either return these product at the end of life to the manufacturer or ensure WEEE compliant collection and treatment yourself. Do not dispose of as an unsorted municipal waste.

3. Battery replacement

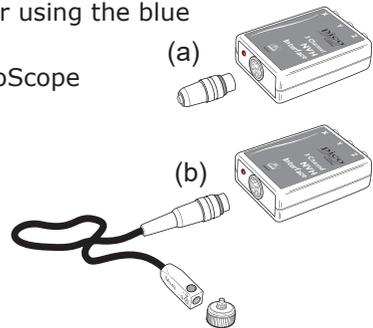
To remove the battery:

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 battery away from the connections.
4. Place new battery in position ensuring correct orientation.
5. Replace the base cover and secure.



4. Connections

1. Connect the oscilloscope to your computer using the blue USB cable supplied with the oscilloscope.
2. Connect the NVH Interface box to the PicoScope using the supplied BNC cables.
3. Connect either the microphone (a) or 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. Click the **NVH** button.



5. NVH Magnet mounting instructions

1. Verify the mounting surface for each magnet is flat and free from contamination.
2. Slide the keeper off of 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.

6. Troubleshooting

Problem	Check	Action	
NVH Interface not working	Is 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 Vibration sensor 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)

8. Pack contents

	Three axis kit PP858	Four axis kit PP987	Upgrade kit PQ028
TA149/TA259 NVH Interface	1	2	1
TA096 Mounting magnet	1	2	1
TA143 Accelerometer	1	2	1
TA144 Microphone	1	1	-
TA145 Sensor extension cable	1	1	-
TA243 BNC Blue	1	1	-
TA244 BNC Red	1	1	-
TA245 BNC Green	1	1	-
TA260 BNC Yellow	-	1	1
PA046 NVH Carry case	1	1	-

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