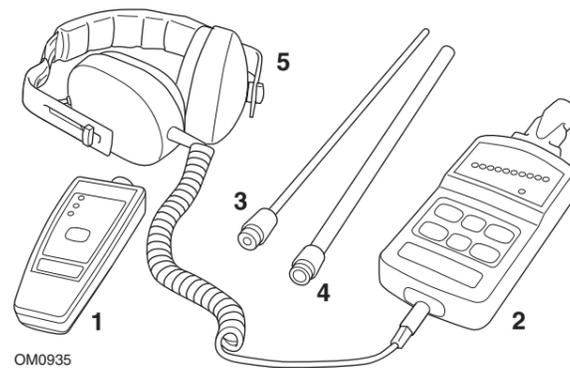


Introduction

Congratulations on choosing the OmiSonic ultrasound detection tool. The OmiSonic has been specially designed for the automotive market for use in diagnosing a wide range of problems with vehicle systems and components.

This Quick Start Guide will outline the components of OmiSonic and how to set up and use the tool. For further information, refer to the Operating Instructions on the enclosed CD ROM.

Overview



The OmiSonic kit includes:

1. Ultrasound transmitter
2. Ultrasound receiver
3. Solid probe attachment
4. Acoustic probe attachment
5. Headphones

Using OmiSonic

Probe Selection

The OmiSonic is supplied with two probe attachments which can be screwed into the transducer on the top of the receiver unit.

The acoustic probe is used to pinpoint airborne ultrasound. The solid probe attachment is used to detect ultrasound by contacting it with the component under inspection.

Receiver Controls

The OmiSonic Receiver is equipped with a 6-button keypad. This table details the keypad buttons and their functionality.

Key	Function
	Bandwidth - Used to toggle between the wide (LED illuminated) and narrow bandwidth modes.
	Power - Used to switch the OmiSonic receiver on and off
	Increase the gain (sensitivity) of the receiver to the range of ultrasound frequencies detected. <i>NOTE: The gain function is not a volume control. If turned up too high, 'white' noise will only be heard through the headphones.</i>
	Decrease the gain (sensitivity) of the receiver.
	Increase headphone volume.
	Decrease headphone volume.

Receiver Indicators

The OmiSonic Receiver has a display of 10 signal strength LEDs and a signal distortion LED.



The 'Signal Strength' LEDs have a dual function. When the unit is first switched on, the LEDs illuminate to indicate the battery condition. If 3 or less LEDs are illuminated the internal 9V battery should be replaced. These LEDs also indicate the intensity of the ultrasound detected (1 - 10).

If the 'Signal Distortion' LED is illuminated, decrease the gain and/or change the bandwidth.

Transmitter Controls

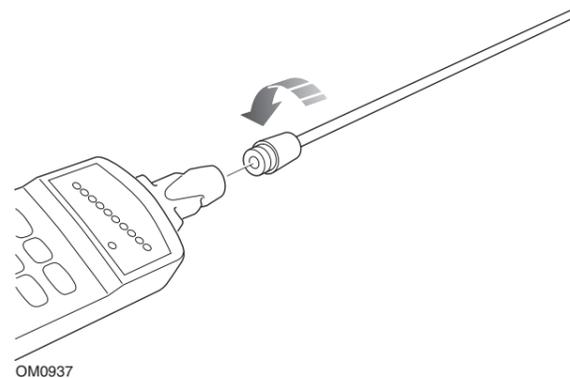
The OmiSonic transmitter generates any one of three different ultrasound signals to test for air, gas and fluid leaks in non-pressurised containers and cavities.

The transmitter is equipped with a single tone control button and 3 LEDs to indicate which tone is selected. To switch on the transmitter, press and hold the tone button until one of the LEDs illuminates. To change the tone type, press the tone button again until the desired one is selected.

Setting up OmiSonic

Follow this procedure before carrying out a test to ensure OmiSonic is working correctly.

1. Insert the headphones plug into the socket located on the bottom end of the receiver.
2. Switch the receiver on by pressing and holding down  until the LED on the button illuminates.
NOTE: To switch off the receiver, press and hold  until the LED on the button extinguishes.
3. Ensure that narrow bandwidth is selected. Press  to select the narrow bandwidth mode if necessary.
NOTE: The button's LED is off when the narrow bandwidth mode is selected, and on when the wide bandwidth mode is selected.
4. Reduce the gain and volume to minimum by repeatedly pressing  and  until only LED 1 is illuminated on both functions.
5. Switch on the transmitter by pressing and holding the tone button until the 'Constant' LED illuminates.
6. Put on the headphones. A constant tone should be heard through the headphones.
NOTE: When using OmiSonic, the bandwidth, gain and volume may need adjusting depending on the application.
7. Switch off the transmitter by pressing and holding the tone button until the LED extinguishes.



8. Attach the appropriate probe to the receiver for the desired application.

Basic Detection Techniques

When using OmiSonic to detect ultrasound, the appropriate probe will need to be attached to the OmiSonic receiver.

Acoustic Probe

When using the acoustic probe, pass the probe over the component under inspection to locate the source of the ultrasound (e.g., over a vacuum line).

Solid Probe

When using the solid probe, contact the probe directly on the component to identify its operating condition (e.g., on a bearing housing).

Specifications

Audible frequency range:	400 to 4000 kHz
Ultrasound frequency range:	Centre frequency 40 kHz general purpose transducer
Technology:	Microprocessor controlled analogue and digital electronics
Operating temperature range:	-10 to +50 °C
Power source:	9 V alkaline battery
Weight:	0.25 kg

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