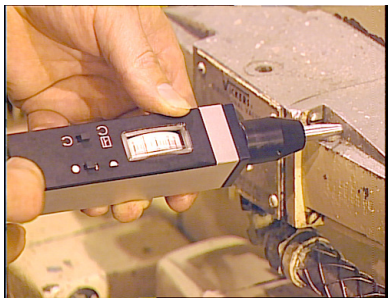
CTRL Innovative Sound Solutions

CTRL UL101 ULTRASOUND INSPECTION KIT

Non-Destructive Testing For Predictive Maintenance And Leak Detection



The UL101 Receiver shown here with 1-inch solid probe testing solenoid valves for bypass leak

Originally designed for the US Military, the CTRL UL101 Ultrasound Inspection Kit is now used in numerous industries throughout the world for predictive maintenance, quality control, and leak detection.

The CTRL UL101 Receiver converts ultrasound signals produced by industrial machinery and vehicles into easily recognizable audible sounds so the user can evaluate the condition of individual components, even in extremely noisy plant environments. Early warning signs and defects can be detected thus preventing costly repairs, safety-related injuries, and downtime.

Monitor the condition of critical equipment
The UL101 uses solid probe extensions to contact the housing of a bearing, gearbox, or other critical equipment. The ultrasound generated by the rotating components provides a clear indication of the condition of the component under test while mitigating any competing sounds. Use the UL101 to determine if a bearing is in proper working form, under-lubricated, over-lubricated, or developing early signs of wear.

Detect pressure and vacuum leaks
The unmatched sensitivity and selectivity of the UL101 provide for effective indication and location of leaks. When a gas or liquid escapes through a crack from a high-pressure system to a low-pressure system it results in turbulence, which produces ultrasound. Save energy by regularly using the UL101 to find leaks in your compressed air system. Save time during quality control and repairs by accurately identifying leaking valves, solenoids, and gaskets.

Detect electrical arcing and corona discharge
Routinely monitor electric panels, transformers, and insulators with the UL101 for a safe environment by detecting arcing. Quickly monitor substations from a safe distance by detecting corona discharge to prevent power outage and improve distribution. In some cases, the UL101 will detect ultrasound produced from corona before an infrared camera is able to detect any access heat.

Test the integrity of non-pressurized vessels
The UT2000 Universal Transmitter is turned on and placed inside a vessel. The UL101 Receiver is used from the outside to listen for escaping ultrasound through weld beads, gaskets and seals, hatches, or windows. Use this method for quality control to test airplanes, automobiles, railroad cars, clean rooms, and much more.

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Specifications

Dimensions:
Receiver: 8.75" x 1.26" x 1.26"
(222 x 32 x 32 mm)
Transmitter: 4.125 x 1.26" x 1.26"
(105 x 32 x 32 mm)

Weight (including battery):
Receiver: 11.6 oz (330 g)
Transmitter: 6.2 oz (175 g)

Housing:
Extruded Aluminum
Wall Thickness .09" (2.3mm)

Power Supply:
9-Volt Alkaline

Battery Life:
Receiver: > 45 hours
Transmitter: > 300 hours

Distance of Reception:
Up to 150 feet (without PB300)

Receiver Threshold of Sensitivity:
Minimum Intensity: 10^{-12} W/m^2
Minimum Ultrasonic Pressure: 2.0 x 10^{-5} PA @ 40 kHz

Frequency Bandwidth:
1.8 – 2.2 kHz @ level 0.7 (or -3 dB)

Working Resonance Frequency:
40 kHz +/- 1.5 kHz

Receiver Displays:
Analog Meter/Battery Level Indicator,
LED Power Indicator

Operating Temperature Range:
-4° to +130° F (-20° to +54° C)

Controls:
Receiver: On/Off Potentiometer Knob
Gain Switch
Meter Selector Switch
Transmitter: On/Off Switch

Headset:
Industrial Grade
600-Ohm Impedance
21-24 dB Ext. Noise Attenuation

Warranty:
1-year parts & labor
Extended warranty available

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Reasons To Consider The UL101

Finds more leaks
Save more energy by finding more leaks with the most sensitive detector on the market today. The UL101 does not have the white noise present, as do other sensors.

Easier to use
Turn the receiver on, adjust sensitivity, and aim in the direction of the equipment you want to test. When testing mechanical equipment, simply contact the housing and adjust the sensitivity.

Does not require calibration
Turn the receiver or transmitter on and begin testing immediately. There is no need to calibrate or routinely send back to the factory.

Longer battery life
A single, 9-Volt battery powers the receiver for more than 45 continuous hours and the transmitter for more than 300 continuous hours. You do not have to wait for recharging.

Complement vibration analysis or infrared
Whether used alone or with other predictive tools, the UL101 provides valuable information for the assessment of your critical equipment.

NASA selected the UL101
The UL101 was chosen for its sensitivity, signal-to-noise ratio, and ease of use for utilization on the space station and all of the shuttles. NASA, along with many other organizations, has selected the UL101 as their product of choice.

Key Product Features

- Unmatched sensitivity, signal-to-noise ratio, and selectivity
- Designed for a wide range of applications
- Convenient, hand-held design
- User-friendly controls
- Analog meter
- Battery level indicator
- Extruded aluminum housing
- Industrial grade headset in over-the-head or behind-the-head styles
- Standard or intrinsically safe models available

CTRL UL101 Full Kit

Which UL101 kit is right for you?

Each kit purchase entitles the end user to 1-½ days training at CTRL headquarters.

	Full Kit (000031)	Air Audit Kit (000036)	Base Kit (000030)	Corona Kit (000041)
UL101 Receiver	X	X	X	X
UT2000 Universal Transmitter	X			
PowerBeam 300				X
Industrial Grade Headset	X	X	X	X
Concentrator Set	X	X		
Acoustic Extension Probe Set	X	X		
Solid Probe Set	X	3-inch only		
1-inch Acoustic Probe	X	X	X	
Training CD	X	X	X	X
Operator's Manual	X	X	X	X
Carrying Case	X	X	X	X
1-year Warranty	X	X	X	X