CTRL Systems
Product Catalog

Ultrasound

Predictive Maintenance
Energy Savings
Leak Detection
Integrity Testing
Steam Trap Assessment
Critical Valve Diagnostics
Electrical Arcing & Corona Discharge

Improve maintenance practices, save energy, reduce man-hours, and more with CTRL

DETECTORS
Ultrasound Kits & Components

UL101 Full Kit

Part Number	Description
000031	**UL101 Full Kit, Standard**
000033	**UL101 Full Kit, Intrinsically Safe**

Kit Components

UL101 Receiver (Standard or Intrinsically Safe*)
UT2000 Transmitter (Standard or Intrinsically Safe*)
Industrial Grade Headset (Over or Behind-The-Head Style)
Concentrator Set (Large, Mini, & Acoustic Tip)
Acoustic Extension Probe Set (4 Extension Probes & Adaptor)
Solid Probe Set (3, 5, 8, and 13-inch)
Training CD
Operator's Manual
Carrying Case

Shipping Weight: 9 lbs./Dimensions: 16" x 15" x 7"

*ANSI/UL 913-88, for DIVISION 1, CLASS I, Groups A, B, C and D, CLASS II, Groups E, F, G and CLASS III. It also complies with DIVISION 2, CLASS I, Groups A, B, C and D, CLASS II, Groups F, G, and CLASS III

Innovative Sound Solutions™

DETECTORS

Ultrasound Kits & Components

UL101 Air Audit Kit

Part Number	Description
000036	**UL101 Air Audit Kit, Standard**
000038	**UL101 Air Audit Kit, Intrinsically Safe**

Kit Components

UL101 Receiver (Standard or Intrinsically Safe*)
Industrial Grade Headset (Over or Behind-The-Head Style)
Concentrator Set (Large, Mini, & Acoustic Tip)
Acoustic Extension Probe Set (4 Extension Probes & Adaptor)
Solid Probe (3-inch)
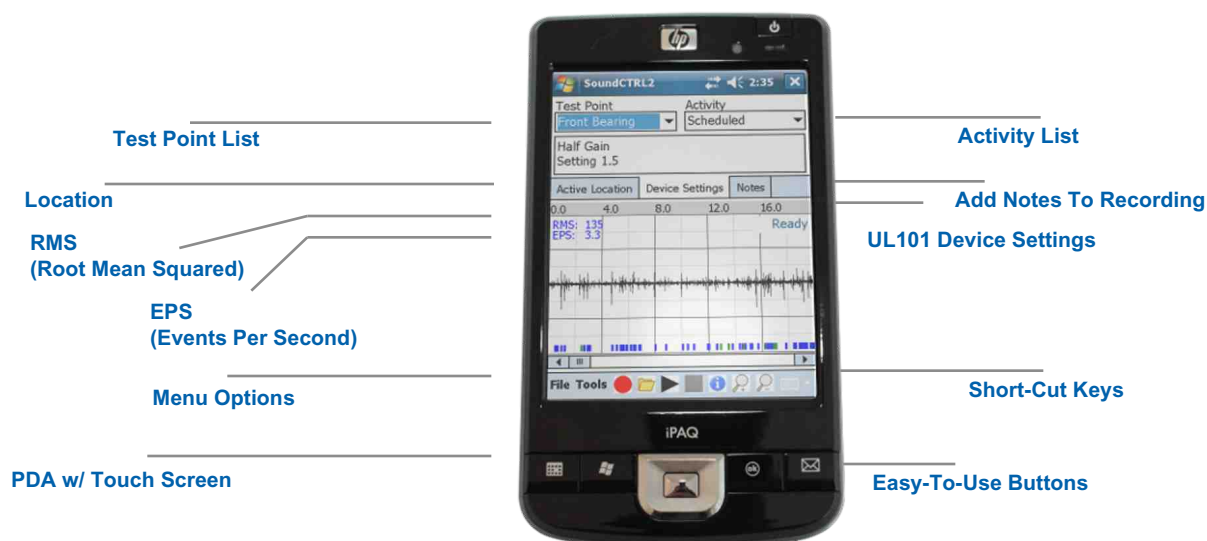Training CD
Operator's Manual
Carrying Case

Shipping Weight: 8 lbs./Dimensions: 16" x 15" x 7"

*ANSI/UL 913-88, for DIVISION 1, CLASS I, Groups A, B, C and D, CLASS II, Groups E, F, G and CLASS III. It also complies with DIVISION 2, CLASS I, Groups A, B, C and D, CLASS II, Groups F, G, and CLASS III

CTRL

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SOFTWARE

Data Acquisition & Analysis

SoundCTRL

Test Point List

Location

RMS
(Root Mean Squared)

EPS
(Events Per Second)

Menu Options

PDA w/ Touch Screen

Activity List

Add Notes To Recording

UL101 Device Settings

Short-Cut Keys

Easy-To-Use Buttons

Part Number	Description
000010	**SoundCTRL (Software & Pocket PC)**
000011	**SoundCTRL (Software Only)**

Software Includes

SoundCTRL Windows Mobile License

SoundCTRL Windows Desktop License

Quick Start Manual

Pocket PC / UL101 Connector Cable

Pocket PC w/ Windows Mobile*

Free 3-Month Subscription to InCTRL

*p/n 000010 only

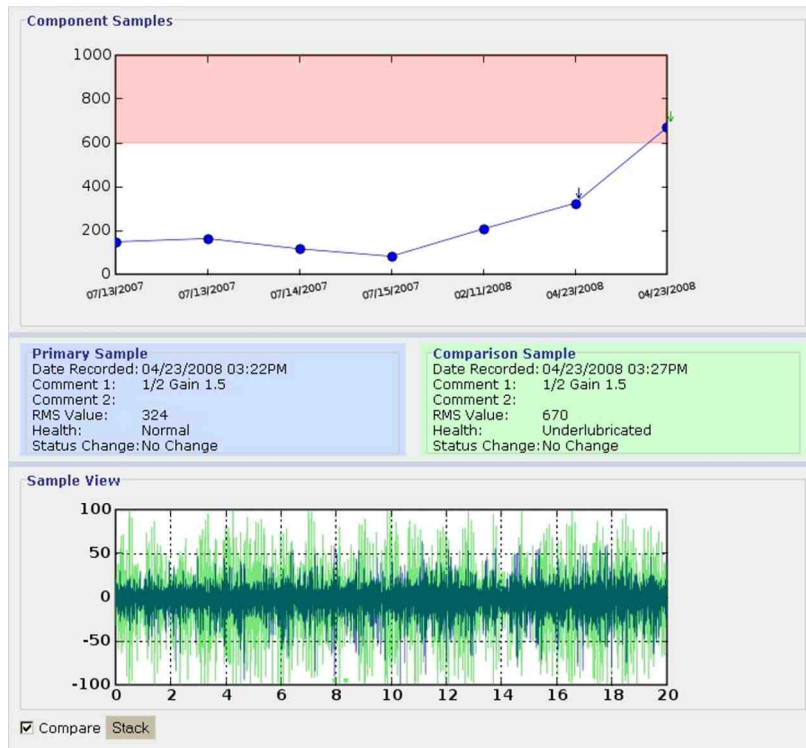**p/n 000010 - Shipping Weight:** 4 lbs./Dimensions: 14" x 11" x 6"

p/n 000011 - Shipping Weight: 1 lbs./Dimensions: 6" x 9" x 1"

CTRL

Innovative Sound Solutions™

SOFTWARE

Data Management, Reporting & Analysis

InCTRL

Trend Ultrasound Data

Analyze Amplitude

Assess Bearing Health Conditions

Track Changes

Compare Wave Files

Part Number	Description
041000	**InCTRL Dedicated Account**
Single User Subscription	
041005	**Single-User (Yearly Subscription)**
041006	**Single-User (Monthly Subscription)**
Multi-User Subscription	
041010	**Master-User (Yearly Subscription)**
041011	**Master-User (Monthly Subscription)**
041020	**Additional-User (Yearly Subscription)**
041021	**Additional-User (Monthly Subscription)**

Subscription Includes

Web-Based Application (Software as a Service)

3 GB Server Storage (10,000 Samples)

Data Securely Stored & Managed by CTRL

Automatic Updates & Upgrades

Unlimited Technical Support

Access Anytime & Anywhere Using Web Browser

CTRL

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SPARES

Kit Components & Accessories

Parts

Concentrator Set

UT2000 Transmitter

UL101 Receiver

Solid Probe Set

Acoustic Extension Probe Set

1-inch Acoustic Tip

Part Number	Description	Part Number	Description
026005	UL101 Receiver, Standard	000005	Acoustic Extension Probe Set
026007	UL101 Receiver, Intrinsically Safe	070005	Adaptor
026010	UT2000 Transmitter, Standard	070040	Polycarbonate Probe (12-inch)
026012	UT2000 Transmitter, Intrinsically Safe	070045	Metal AcousticProbe (12-inch, double threaded end)
		070050	Metal AcousticProbe (12-inch, single threaded end)
000065	Concentrator Set		
070007	Large Concentrator	070035	1-inch Acoustic Probe
070009	Mini-Concentrator		
070037	Acoustic Tip	020015	Carrying Case
		025010	Industrial Grade Headset (Over-The-Head)
000050	Solid Probe Set	025005	Industrial Grade Headset (Behind-The-Head)
040045	3-inch Solid Probe		
040050	5-inch Solid Probe	007005	PowerBeam 300
040055	8-inch Solid Probe		
040060	13-inch Solid Probe	005055	Receiver Jacket
040065	23-inch Solid Probe (Special Ordered)	005035	Belt Pouch
		005007	Gel Ear Seals

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COMPANY

CTRL Systems, Inc.

Contact

CTRL Systems, Inc. is a maintenance solutions provider. Manufacturers face many challenges, such as extending the life and improving the performance of equipment. It is sometimes necessary to do these things with limited resources – less personnel, less time, and more demands.

A good predictive maintenance, energy savings, and quality control program can prevent unexpected failures, downtime, and waste. CTRL's ultrasonic technology provides an efficient and cost effective method for monitoring critical equipment and leak detection. Frequent inspection, documentation, and trending are crucial for an effective program.

CTRL can work closely with your organization to provide a seamless integration of ultrasound technology into current processes for the maximum level of ROI and satisfaction.

Selected by NASA as standard equipment on the International Space Station and all Shuttle missions.

To Order
Call (410) 876-5676
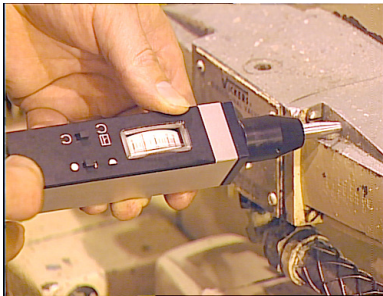Request a quote at www.ctrlsys.com

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CTRL UL101 ULTRASOUND INSPECTION KIT

Non-Destructive Testing For Predictive Maintenance And Leak Detection

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.

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

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.

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: 2.0×10^{-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

CTRL Systems, Inc.
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Westminster MD, 21157
USA
www.ctrlsys.com

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