

ULTRAPROBE® 10,000

The ultimate digital ultrasonic inspection system for condition monitoring with advanced software packages

The Ultraprobe® 10,000 is the world's most advanced ultrasonic inspection system!

This innovative instrument is jam-packed with so many beneficial features it will make your inspection efficient and easy!

The Ultraprobe® 10,000 enables you to:

- Inspect
- Perform Condition Analysis
- Record and Analyze Sound Samples
- Store and Test Data
- Review Inspection Results
- Manage your Test Data

ALL WITH JUST ONE INSTRUMENT!

The Ultraprobe® 10,000 features onboard Sound Recording with a push of a button. You'll record a sound sample directly into the instrument and link it to the applicable files stored in the Ultraprobe!



The Ultraprobe® 10,000 simplifies sound recording with user-friendly **Spin and Click™** technology. Test the way you want with:

- Specialized Application Screens
- Adjustable On/Off Features
- Connection to External Devices
- Flexible Reporting Options

ULTRAPROBE® 10,000

is a Complete Ultrasonic Asset Management System

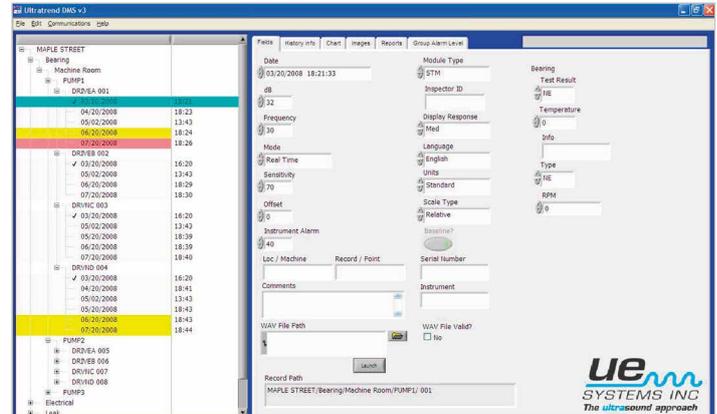
Something for everybody.

What do you want to test?

Whatever it may be the Ultraprobe® 10,000 has application-specific software for you. With the click of a button, you can select an application with specialized fields for accurate reporting and analysis.

Select any of 6 applications:

Generic, Leaks, Valves, Bearings, Electrical or Steam and the Ultraprobe® 10,000 automatically sets relevant fields for your data logging convenience – and all stored data is easily downloaded to the Ultratrend™ DMS software.

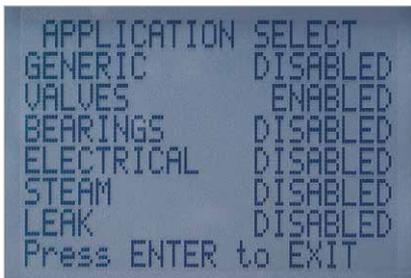


Specialized fields for the valve application

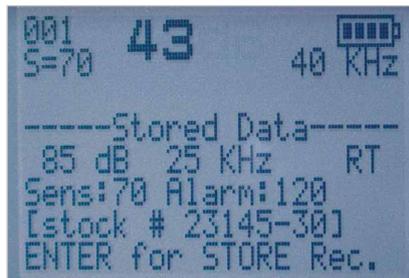
Expand your inspections

In addition to on-board data logging, the Ultraprobe® 10,000 accepts and stores data from external devices such as thermometers and tachometers.

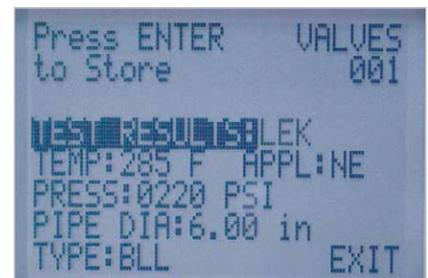
Review stored data on specialized screens



Select from 6 specialized applications



Data storage screen



Test info screen

Everything needed for specialized testing is included with the Ultraprobe® 10,000 Inspection System



STETHOSCOPE MODULE
with pointed tip waveguide.



RAS-MT – REMOTE ACCESS SENSOR MAGNETIC MOUNT TRANSDUCER
comes with cable, which allows users to test hard-to-reach test points. In addition, it provides for consistency in test results by eliminating variables such as angle of approach and contact probe pressure.



LONG RANGE MODULE
will double the detection distance of the standard Trisonic Scanning Module and enhance performance for any electrical or leak inspection job. With a 10° field of view, you can pinpoint the exact location of a problem at a safe distance. Eliminating the need for ladders or a lift!

Additional Software for Accurate Records and Reports

The Ultraprobe® 10,000 system includes both **Ultratrend DMS™** and **UE Spectralyzer™** software to help you organize and analyze all of your inspection needs.

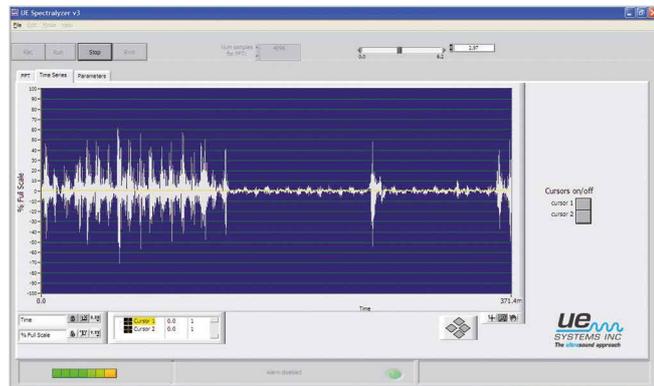
ULTRATREND DMS™ Data Management System

A comprehensive record storage, data management and data analysis program, the Ultratrend DMS™ allows you to:

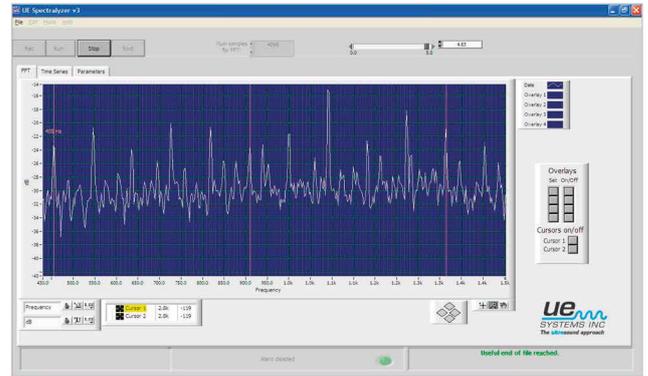
- Have multiple views for reviewing data.
- Have a history table and trend chart to review any changes to any of the relevant test fields, such as decibel, frequency, test results, temperature or rpm.
- View data on a trend chart embedded in the program or easily export the file to MS Excel.

Have flexibility as never before! With SD card technology we offer you additional capabilities to help you:

- Upload
- Download
- Saving wave files
- Future upgrades
- NEVER LOSE TEST INFORMATION!



View sound samples in time series



View subject sound samples as a spectrogram

An invaluable built-in failsafe feature saves your information onto a SD card. Now you can record, store and save wave files in case of power loss or unlikely crash. You'll be amazed! While you're viewing the sound images, you'll be hearing the sound as it's being played in real time to enhance your analysis. You won't find this exceptional feature anywhere else.

UE SPECTRALYZER™ Spectral Analysis Software

The UE Spectralyzer™ is a spectral analysis software, which converts your PC into a fully functioning FFT analyzer. It provides both spectra and time series views of your recorded sounds. With this software, sound images are easily produced for reporting. You can even attach each sound sample to a file or include an image of the spectra in your report.

ONBOARD SOUND RECORDING... AS EASY AS 1, 2, 3!

With onboard sound recording, just Spin and Click. That's all you'll need to do to record a sound sample with the Ultraprobe® 10,000. You can play your recorded sounds back in real time. All sounds are stored on a SD card for easy downloading to your computer.



The SD card will hold all of your sound files for easy downloading onto your PC. Kit also includes an adapter.

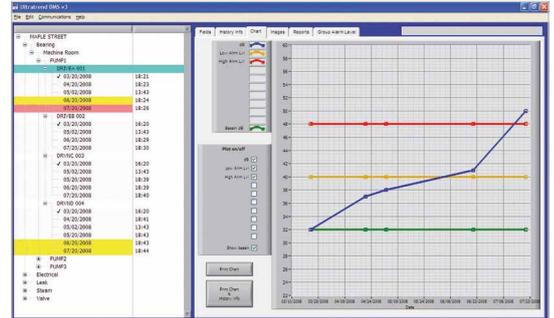


Consider the possibilities with the Ultraprobe® 10,000:

Once you've used this instrument, you'll want no other!

The Ultraprobe® 10,000 assists your Reporting, Analyzing and Record keeping. For example, you can:

- Trend a group of bearings over time
- Trend one bearing over time
- Analyze steam trap history and costs
- Analyze leak costs
- Note patterns in electrical failure
- Record valve sounds
- Analyze mechanical sounds



And here's a possibility - try to trend a bearing over time. When it exceeds an alarm level, take a spectra and combine all of the data into one report

Typical Ultraprobe Applications Data Based Mechanical Inspection/Trending

- Bearing Condition
- Rubbing Conditions
- Cavitation
- Gears/Gear Boxes
- Pumps/Motors
- Lack of Lubrication

Data Based Leak Detection/Energy Audits

- Compressed Air
- Compressed Gases (O₂, NO, etc.)
- Vacuum Leaks
- Seals and Gaskets
- Condenser Tubes
- Hatches
- Boilers
- Heat Exchangers
- Valves
- Steam Traps

Data Based Electrical Inspection

- Arcing
- Tracking
- Corona
- Switchgear
- Transformers
- Insulators
- Relays
- Bus Bars

Ultraprobe® 10,000 Specifications

Construction	Hand-held pistol type made with coated aluminum and ABS plastic
Circuitry	Solid State Analog and SMD Digital Circuitry with temperature compensation and true RMS conversion
Frequency Range	20 KHz to 100 KHz (tunable in 1 KHz increments)
Response Time	< 10 ms
Display	64x128 LCD with LED Backlight
Memory	4GB SD card
Battery	Lithium NIMH Rechargeable
Operating Temperature	0°C to 50°C (32°F to 122°F)
Outputs	Calibrated heterodyned output, decibel (dB), frequency, SD card output
Headset	Trisonic Scanning Module and Stethoscope Module, Long Range Module and RAS/RAM
Indicators	Deluxe noise attenuating headphones For hard hat use
Indicators	dB, Frequency, Battery Status and 16 Segment Bar Graph
Threshold*	Detects 0.127 mm (0.005") diameter leak @ 0.34 bar (5 psi) at a distance of 15.24 m (50 ft.)
Threshold*	1 x 10 ⁻² std. cc/sec to 1 x 10 ⁻³ std. cc/sec.
Dimensions	Complete kit in Zero Halliburton aluminum carrying case 55 x 47 x 20 cm (21.5" x 18.5" x 8")
Weight	Pistol Unit: 1.1 kg (2.35 lbs.) Complete carrying case: 8.6 kg (19 lbs)
Warranty	1-year parts/labor standard 5 years with returned, completed warranty registration
Display Modes	Real Time, Snap Shot, Peak Hold, Storage Display and Application Specific * Depends on leak configuration



ULTRAPROBE®

Accessories



DHC Noise Isolating Headphones

There are two models. Both meet or exceed ANSI specifications and OSHA standards with over 23 dB of noise attenuation. DHC-2 has a headband loop to keep the phones over the ears while DHC-2HH is for Hard Hat use. The DHC-2HH is standard equipment for Ultraprobe® models except the model 100.



UWC Ultrasonic Wave Form Concentrator

More than double the detection distance of standard scanning modules with this extremely sensitive and directional parabolic dish. The UWC utilizes seven transducers to provide pinpoint accuracy with a 5° reception field. Detection Range: 34 bar (5 psi) through 0.127 mm (0.008") orifice at distance of 30.48 m (100 ft).



RAS/RAM Remote Access Sensor

When accessibility is an issue such as when a motor is contained within a closed cabinet, or a test point is in a hard-to-reach area, the RAS/RAM is an answer. Mount the RAS Sensor on the test point and run a cable to an access area where the RAM (Remote Access Module) can be placed. When the point is to be tested, plug the RAM into your Ultraprobe and view or data log the information.



LRM Long Range Module

A uniquely designed parabolic microphone that lets you detect leaks and electrical discharges at a distance. The LRM doubles the detection distance of standard scanning modules.

Ultraprobe® 550, 2000: **LRM-2**
 Ultraprobe® 3000: **LRM-3**
 Ultraprobe® 9000 & 10,000: **LRM-9/10**

Ultraprobe® 550, 2000: **UWC-2000**
 Ultraprobe® 9000 & 10,000: **UWC-9/10**



HTS Holster

Carry your Ultraprobe® on your belt, hands free. Be sure to order the correct holster for your Ultraprobe® model.

Ultraprobe® 100: **HTS-1**
 Ultraprobe® 201: **HTS-201**
 Ultraprobe® 550, 2000, 9000: **HTS-2**
 Ultraprobe® 3000: **HTS-3**
 Ultraprobe® 10,000: **HTS-10**

Ultraprobe® 550, 2000: **RAS-2**
 Ultraprobe® 9000 & 10,000: **RAS-9/10**



CFM The Close Focus Module

Enhances leak detection of low level leaks and negative pressure (vacuum) leaks. Designed for close up scanning. The receiving chamber focuses all low level acoustic energy straight to the transducer with little loss of energy.

Ultraprobe® 550, 2000: **CFM-2**
 Ultraprobe® 9000 & 10,000: **CFM-9/10**



RAS-MT

Uses a magnetic mountable transducer with a cable that is plugged into an Ultraprobe®, which is put on a test point. Ideal for bearing inspections and hard to reach test points.

- Ultraprobe® 550: **RAS-MT-2 (+RAM)**
- Ultraprobe® 2000: **RAS-MT-2 (+RAM)**
- Ultraprobe® 3000: **RAS-MT-3 (+RAM)**
- Ultraprobe® 9000: **RAS-MT-9 (+RAM)**
- Ultraprobe® 10,000: **RAS-MT-10 (+RAM)**



Compressed Air Leak Tag

A three-part leak tag system for your compressed air leak surveys. Part 1: the Leak Location Marker. Part 2: Leak Data, which includes relevant test information. Use this to log information for reference and to act as a work order. Part 3: the Repair Tag. This acts as a follow up to document the repair and to assure that it was performed correctly.

MP-BNC-2 Miniphone to BNC Connector

Connects an Ultraprobe® to most recording devices, lap top computers and vibration analyzers.

Y-Splitter

Fits in the headphone jack and connects either two headphones or a headphone and an audio/vibration cable simultaneously.

UE EXC Shielded Cable

Plug one end into an Ultraprobe® and plug one of the interchangeable modules into the other end to extend your reach. Standard length is 2.4 m (8").

- Ultraprobe® 100: **EXC-1**
- Ultraprobe® 550, 2000: **EXC-2**
- Ultraprobe® 3000: **EXC-3**
- Ultraprobe® 9000 & 10,000: **EXC-9/10**

UE X2 Adapter

Charges a battery outside the main pistol unit. Attaches to the standard Ultraprobe® BCH metered pistol recharger and to the battery.

Nylon Cover for Zero Halliburton Cases

Protects your carrying case from scratches and bangs.

- Ultraprobe® 2000, 9000: **CC-UPZH-2S**
- Ultraprobe® 3000: **CC-UPZH-2S**
- Ultraprobe® 10,000: **CC-UPZH-10S**



Flexible telescoping scanning/contact module

Reach into areas where it is difficult for approach. The telescoping action of the module gives you extended reach. Available in contact or scanning type.



WTG2SP Pipe Threaded Warble Tone Generator

1" NPT male threaded nipple with adapters for 3/4" and 1/2" female nipples, 0 turn amplitude adjustment dial. Rechargeable Ni-cad batteries.

FMTG-1991 Multi-Directional Tone Generator

With four transducers to cover a 360° pattern of ultrasonic output. Suction cup mount (magnetic mount optional). Rechargeable Ni-cad batteries.



WTG-1 Ultrasonic Warble Tone Generator

The standard tone generator with two amplitude positions: low and high. In high covers up to 4000 cubic feet of uninterrupted space. Rechargeable Ni-cad batteries.



ULTRAPROBE®

Ultrasound Applications

Common Uses of Airborne and Structure-borne Ultrasound Technology

Valves

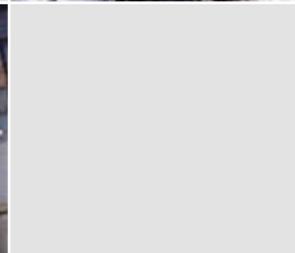
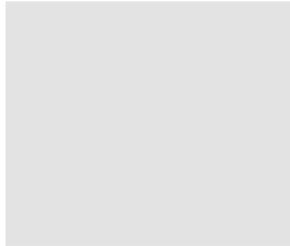
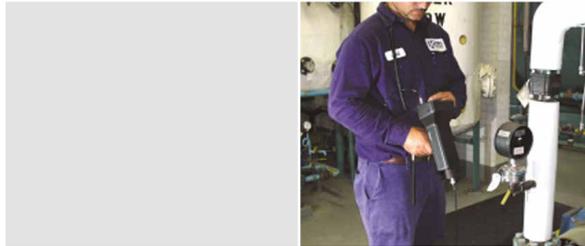
Valve activity such as leakage or blockage can be accurately checked while the valve is on line. Properly seated valves are relatively quiet while leaking valves produce a turbulent flow as the fluid moves from the high pressure side through the leak to the low pressure side. Due to a wide sensitivity and ultrasonic frequency selection range, all types of valves even in noisy environments can be accurately tested.

Valve Stems

Valve stems may be quickly tested for leaks to atmosphere.

Pressure/Vacuum Leaks

As any gas (air, oxygen, nitrogen, etc.) passes through a leak orifice, it generates a turbulent flow with detectable high frequency components. By scanning the test area with an Ultraprobe, a leak can be heard through the headset as a rushing sound or noted on the display/meter. The closer the instrument is to the leak, the louder the rushing sound and the higher the reading. Should ambient noise be a problem, a rubber focusing probe may be used to narrow the instrument's reception field and to shield it from conflicting ultrasounds. In addition, Frequency Tuning (available in most models) dramatically reduces background noise interference to provide ease of ultrasonic leak detection as never before experienced.



Steam Trap Inspection

Major steam trap manufacturers have recommended ultrasound inspection of steam traps as one of the most reliable methods available. By converting the ultrasonic elements of a working steam trap into the audible range, Ultraprobe® allows users to hear through headphones and see on a display/ meter the exact condition of a steam trap while it is on line. Blow-by, machine gunning, oversized traps or line blockage are all easily detected. Frequency tuning enhances Ultraprobe's ability to discriminate between condensate and steam. Ultraprobe® markedly reduces confusion from extraneous sounds or from heat transfer, even when traps are extremely close together.

Reciprocating Compressor Valve Analysis has become so successful with the Ultraprobe®, many engine analyzer companies now offer instruments with an ultrasonic input port.

Bearing Inspection/Monitoring

Bearing Inspection/Monitoring Ultraprobe® detects the earliest stage of bearing failure. NASA research has demonstrated that ultrasound bearing monitoring will locate potential bearing failure long before it is detected by traditional heat and vibration methods. With the Ultraprobe, users hear the sound quality of a bearing as well as monitor amplitude changes on the display/ meter. This provides the ability to trend, trouble shoot and confirm potential bearing problems. Bearing inspection is easy with the Ultraprobe®. Requiring only one test point and very little training, users will learn to test bearings within minutes. Frequency Tuning makes it easy to tune into a bearing and isolate it for analysis regardless of competing signals. Even current vibration programs will achieve enhanced diagnostic ability with an Ultraprobe®. Most vibration analyzers are easily connected to an Ultraprobe.

Prevent over-lubrication

with the Ultraprobe® 2000 by simply lubricating only until the meter reaches as pecified level. Over lubrication is one of the most common causes of bearing failure.

General Mechanical Inspection

of pumps, motors, compressors, gears & gear boxes: All types of operating equipment may be inspected with an Ultraprobe®. Since Ultraprobe works in a high frequency, short wave environment, problems such as cavitation in pumps, compressor valve leakage or missing gear teeth may be heard and isolated. Ultraprobe's Frequency Tuning* allows users to quickly "tune in" to problem sounds and recognize them with little previous experience due to the clarity of the heterodyned signal.

*Not all models have frequency tuning.



Accessories for enhancing test procedures available

Electrical Inspection

Arcing, tracking, & corona discharge: Arcing, tracking, & corona discharge produce ultrasound at the site of emission. These electrical discharges can be located quickly by scanning an area with Ultraprobe. The signal is heard as a frying orbuzzing sound in the headset. As with pressure or vacuum leak detection, the closer the instrument is to the discharge, the more intense the signal. Test: switchgear, transformers, circuitbreakers, bussbars, relays, junction boxes, insulators, and other electrical gear.

Heat Exchangers, Boilers & Condensers

In-leakage or pressure leakage can be readily located with the Ultraprobe. Fittings, valves, flanges are all easily scanned for leakage. The high frequency, short wave nature of ultrasound allows operators to pinpoint the location of a leak in high noise environments. Condenser tubes and heat exchanger tubes may be tested for leakage through three methods: vacuum, pressure, ultratone.

Vacuum. The tube sheet is scanned for the tell-tale rushing sound produced as the leak draws air into the tube.

Pressure. Additional testing may be performed when the system is off-line utilizing air pressure around the tube bundle and scanning for the rushing sound produced from the leaking tube.

Ultratone. A unique method that is also employed for heat exchangers is the "Ultratone" method in which a powerful high frequency transmitter floods the shell side of the exchanger with ultrasound. The generated sound will follow the leak path through the tube. A scan of the tube sheet will indicate the leaking tube.



Test/Trend all types of machinery





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