

Analog Ultrasonic inspection system



The Industry's Most Comprehensive Analog Detection System

Fast, accurate, and designed for ease of use, it often takes no more than 15 minutes to become competent in ultrasonic testing using the Ultraprobe® 2000

The Ultraprobe® 2000 can help:

- Reduce unplanned downtime
- Shorten planned outage time
- Diagnose equipment problems quickly
- One person quickly test equipment in an entire section
- Create more efficient scheduling of routine Preventative Maintenance procedures

The Ultraprobe® 2000 also enables data reporting through three modes: through auditory channels (via a headset that has been specifically selected for heavy duty industrial use), through a uniquely designed bi-modal analog meter, and through the ability to interface with vibration analyzers, & sound recording devices via the heterodyned output.

For use in hazardous environments, the Ultraprobe 2000 is rated intrinsically safe. An ATEX model is also available.

The Ultraprobe® 2000 can be adapted to test practically any problem in operating equipment with such features as:

- FREQUENCY TUNING enables a user to tune into problem "sounds" while minimizing background interference.
- METER MODE selection adjusts the meter response from a real time response to an averaging response. This feature allows accurate adjustments for leak detection and for mechanical analysis.

The Ultraprobe® 2000 can heterodyne ultrasound into audible range providing accurate sound reproduction.

Sensitive only to ultrasonic frequencies, the Ultraprobe 2000 will not respond to the low frequency noises often associated with most plant equipment. Therefore, the "gun" can be effectively utilized in extremely loud environments.

One Analog Instrument to Test Them All!

Contact Applications including:

- Bearings
- Gear Boxes
- Line Blockage
- Steam Traps
- Valves
- Compressors
- Motors
- Pipes
- Flow Direction
- Underground Leaks

Airborne Applications including:

- Vacuum Leaks
- Welds
- Substations
- Heat Exchangers
- Seals
- Pumps
- Tanks
- Air Brakes
- Gaskets
- Pressure Leaks (all types)
- Electrical Arc (including CORONA)
- Caulking (air infiltration)
- Wind Noise Problems
- Junction Boxes



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Technical Specifications

- **CONSTRUCTION:** Hand held metered pistol type made with anodized aluminum and ABS plastic
- **FREQUENCY RESPONSE:** Detect ultrasonic frequencies between 20 kHz and 100kHz, continuously variable. Frequencies are converted to 100 Hz to 3 kHz audio.
- **Scanning Module:** patented TRISONIC plug-in type consisting of a phased array of multiple transducers for airborne ultrasound. This probe is shielded against RF interface.
- **Rubber Focusing Probe (flexible)** slips over scanning module to concentrate conical directivity and to shield reception of stray ultrasound. Also fits over Stethoscope Module to shield against high ambient ultrasound while unit is at maximum sensitivity.
- **Stethoscope Module:** plug-in type, insulated probe with RF shielding; 4 1/2" (11.4 cm) long steel probe tip, conically shaped for uniform surface contact. Probe tip is interchangeable.
- **Stethoscope Extension Kit:** 3 piece, segmented metal rods to increase stethoscope contact range 20" (50.8cm) and 31" (76.2 cm).
- **TRANSMITTER:** Patented warble tone transmission
- **HEADSET:** Noise isolating type: double headset wired monophonic, impedance, 16 ohms. Over 23 dB of noise attenuation. Meets or exceeds ANSI specification and OSHA standards.
- **INDICATORS:** Ballistic output meter: linear calibration scale of 0-100 for logging relative measurements. Meter is accurate 1% throughout entire scale. Low level Battery LED indicator for main housing internal power supply.
- **BATTERIES:** Self contained nickel-cadmium rechargeable. **RECHARGING SYSTEM:** Standard 110V. Also available in 220V.
- **FEATURES:**
 - Frequency tuning adjustment dial: Scale 20-100 kHz with "fixed band" positions for ultra-narrow frequency response.
 - Bi-Modal Meter Switch for logarithmic and linear meter scale adjustments.
 - Optional auxiliary mode selection for chart recorder output: 0 – 50 mV, Precision 10 turn adjustment dial with numerically calibrated sensitivity increments for finite gain adjustment.
 - Sensitivity Control, A 10 turn numerically calibrated adjustable potentiometer. Spring loaded trigger switch.
- **OVER-ALL SIZE:** Complete kit in Zero Haliburton aluminum carrying case: 15" x 22" x 7" (38.1 x 55.9 x 17.8 cm). Pistol unit 2 lbs (.9kg).
- Complete carrying case: 14 lbs (6.4 kg).
- **SENSITIVITY:** Detects .005" (.127 mm) dia. leak @ 5 psi (.34 bar) at a distance of 50 ft (15.24 m).
- **THRESHOLD*:** 1×10^{-2} 1×10^{-3} std. cc/sec. freon
- **WARRANTY:** 5 Years parts/labor (*depends on configuration)
- **ULTRAPROBE 2000 KIT:** Meets and exceeds ASTM E1002-93 requirements for Leak Detection.

GOVERNMENT CODES

- NSN: 6635-01-156-3927
- FSCM (CAGE) Code: 59202
- Table of Allowance #: 788, 404, 576, 583, 607
- Covered by one or more of the following patents: 4416145, EP015115, 502674183
- Factory Mutual System Approved
- Intrinsically Safe, Class 1, Division I, Groups A, B, C & D
- American Bureau of Shipping (ABS) TYPE APPROVAL 95-NY-166-X
- Det Norske Veritas (DNV)



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Ultraprobe® 2000 Ultrasonic Detection Kit

Complete with everything you need to for accurate route inspection, the Ultraprobe® 2000 kit includes: ULTRAPROBE housing with Metered Pistol Grip, Ballistic Meter, Frequency Tuning Dial, Ten Turn Potentiometer, Numerically Calibrated Sensitivity Dial with Selection Lock, Bi-Modal Meter Selector switch, battery, battery indicator light, battery recharger receptacle and head set receptacle.

- Trisonic scanning Module for locating airborne ultrasound such as pressure, vacuum and electrical leakage.
- Rubber Focusing Probe for narrowing reception band of Scanning Module and for blocking out ambient ultrasound.
- Stethoscope (contact type) Probe for monitoring internally generated ultrasound such as in bearings, steam traps and valves.
- Deluxe Industrial noise reducing Headset.
- Video Training Tape Program
- Extension Probe Kit to increase Stethoscope contact range to 31 inches.
- Warble Tone Generator with amplitude selection switch for use in Tone Test method.
- Battery Recharge Kit for main housing and Warble Tone Generator.
- Zero Halliburton aluminum carrying case

FACTORY MUTUAL RATED

- Intrinsically Safe
- Class 1, Division 1, Groups A, B, C & D
- Exceeds ASTM-1002-05
- Standards for ultrasonic leak detection
- CE rated
- EX Rated



Digital Ultrasonic inspection system

Accessories:

HTS-2: HOLSTER SET

One for the Ultraprobe pistol, module and headphones, the other for accessories. Keeps hands free for walking routes and climbing up and down ladders.



LRM-2: LONG RANGE MODULE

Advanced technology from UE Systems and National Aeronautics and Space Administration brings distant leaks and electrical transmissions close-up. (like an ultrasonic telescope)

UWC-2: ULTRASONIC WAVE FORM CONCENTRATOR (PARABOLIC DISH

The UWC doubles the detection range of standard scanning modules and pinpoints ultrasonic leaks & electric emissions at great distances.



CFM-2: CLOSE FOCUS MODULE

A specialized module to help locate LOW LEVEL pressure and vacuum leaks.



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Accessories:

EXC-2: MODULE INTERCONNECTION CABLE

Shielded cable, works with either module for hard to reach areas. Standard length: 8' (2.4M). Lengths up to 50 ft. are available.



TFSM-2 TELESCOPING & FLEXIBLE SCANNING MODULE with RAM (Remote Access Module)
Extend and Bend this probe to odd angles to locate sound sources in hard to reach areas. (up to 84 in / 2.1 m)

FSM-2: FLEXIBLE SCANNING MODULE

Bend this probe to odd angles to locate sound sources in hard to reach areas.



WTG-2SP: WARBLE PIPE TONE GENERATOR

For leak detection without pressure or vacuum. Heat exchangers, tanks with small openings or pipe sections can be quickly flooded with ultrasound for leak testing.

