



UE SYSTEMS INC.

THE ULTRAPROBE 100 MANUAL

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START

OVERVIEW

INTRODUCTION

The ULTRAPROBE 100 provides easy, accurate leak detection and mechanical inspection through advance ultrasonic technology.

Before you begin testing, it is advisable to familiarize yourself with the basic components of your kit.

BASIC COMPONENTS OF YOUR KIT





COMPONENTS

PISTOL HOUSING

The main component of the Ultraprobe 100 is its' pistol housing. From back to front, let us examine each part.



BAR GRAPH DISPLAY. The display consists of a ten segment LED bar graph that will indicate ultrasonic signal strength. A low number of LEDs indicate a low level of ultrasound, conversely more intense ultrasonic signals will display more LEDs.



BATTERY LEVEL LIGHT. This red light turns on only when the batteries need to be replaced.

NOTE: *When the trigger on/off switch is pulled to the on position the Battery Level Light will flicker on and then stay off. This is normal and has no relation to battery condition.*

SENSITIVITY SELECTION DIAL. There are eight (8) sensitivity levels which read out in related decibels of "0" to "70". As the dial is turned to the right, to "0", the sensitivity of the instrument increases. As the dial is turned to the left, to "70", the sensitivity decreases. A low-level ultrasound emission produces low amplitude. For this reason, the instrument should be in a high sensitivity position. 0 is the high sensitivity position. 0 is a dB indication of threshold detection for the instrument. For higher amplitude signals, move the sensitivity to the left towards "70".



HEAD SET JACK. This is where you plug in the headset. Be sure to plug it in firmly until it clicks. This is a 3.5mm mono jack.

TRIGGER SWITCH. This is located on the underside of the Ultraprobe 100. The Ultraprobe is always “off” until the trigger switch is pressed. To operate, simply press the trigger and hold; to turn the instrument off, release the trigger.



SCANNING MODULE



This module is utilized to receive air-borne ultrasound such as the ultrasounds emitted by pressure leaks and electrical discharges. To use, make sure it is plugged in to the front end of the metered pistol housing by aligning the plug with the receptacle and inserting it firmly. It has approximately a 60° field of reception.

TO USE THE SCANNING MODULE

- Plug in to front end
- Start with the sensitivity selection dial at maximum (0)
- Start to scan the test area

The method of air borne detection is to go from the “gross to the fine”. If there is too much ultrasound in the area, reduce the sensitivity, place the RUBBER FOCUSING PROBE (described below) over the scanning module and proceed to follow the test sound to its’ loudest point. If it is difficult to locate the sound due to a high intensity signal, keep reducing the sensitivity and following the meter to the loudest point.

CONTACT (STETHOSCOPE) MODULE

This is the module with the metal rod. This rod is utilized as a “wave guide” that is sensitive to ultrasound generated internally such as with a pipe, bearing housing, steam trap or wall. Once stimulated by ultrasound, it transfers the signal to a piezoelectric transducer located directly in the module housing.



TO USE THE STETHOSCOPE MODULE

- Align the pin located at the rear of the module with the jack in the front end of the Metered Pistol Housing and plug in firmly.
- Touch test area.
- As with the scanning module, go from the “gross” to the “fine.” Start a maximum sensitivity on the Sensitivity Selection Dial and proceed to reduce the sensitivity until a satisfactory sound and meter level are achieved.

RUBBER FOCUSING PROBE

The Rubber Focusing Probe is a circular shaped rubber shield. It is used to block out stray ultrasound and to assist in narrowing the field of reception of the Scanning Module.



To use, simply slip it over the front of the scanning module or the contact module.

NOTE: To prevent damage to the module plug, always remove the module BEFORE attaching and removing the Rubber Focusing Probe.

LONG RANGE MODULE

The Long-Range Module is a parabolic shaped rubber cone. It is used to double the distance of the scanning module. It has a much narrower field of reception (about 10°) than the scanning module by itself.



To use, simply slip it over the front of the scanning module.

NOTE: To prevent damage to the module plug, always remove the module BEFORE attaching and removing the Long-Range Module.

HEADSET

This heavy-duty headset is designed to block out intense sounds often found in industrial environments so that the user may easily hear sounds received by the ULTRAPROBE.



To use, simply plug the headset cord into the headset jack on the metered pistol housing and

place the headphones over your ears. These are designed to be used with or without a hard hat.

WTG-1 WARBLE TONE GENERATOR (OPTION)

The WTG-1 Tone Generator is an ultrasonic transmitter designed to flood an area with ultrasound. This Tone Generator is a WARBLE TONE GENERATOR. This internationally patented transmitter sweeps through several ultrasonic frequencies in a fraction of a second to produce a strong, recognizable “Warble” signal. The warble tone prevents a standing wave condition which can produce false readings and provides for a consistency of testing in practically any material.



TO USE THE WARBLE TONE GENERATOR

- Turn Tone Generator on by selecting either “LOW” for a low amplitude signal or “HIGH” for high amplitude. To test the condition of the Warble Tone Generator battery, set to the LOW INTENSITY position and listen to the sound through the Ultraprobe headphones. A smooth continuous warbling sound should be heard. If a “beeping” is heard instead, then a full recharge of the Warble Tone Generator is indicated.

TO CHARGE THE WARBLE TONE GENERATOR

- Use the recharger.
- Plug Tone Generator plug (yellow) into the recharge jack located on top of the front panel.
- Plug the recharger into an electrical outlet.
- A complete charge will take 4 hours.
- Since there is no memory problem, the Tone Generator may be charge after short intervals of use.



SAFETY ADVISORY. PLEASE READ BEFORE USING YOUR INSTRUMENT.

WARNING!

Improper use of your ultrasonic detector may result in death or serious injury. Observe all safety precautions. Do not attempt to make any repairs or adjustments while the equipment is operating. Be sure to turn off and LOCK OUT all electrical and mechanical sources before performing any corrective maintenance. Always refer to local guidelines for appropriate lockout and maintenance procedures.

SAFETY PRECAUTION. Although your ultrasonic instrument is intended to be used while equipment is operating, the close proximity of hot piping, electrical equipment and rotating parts are all potentially hazardous to the user. Be sure to use extreme caution when using your instrument around energized equipment. Avoid direct contact with hot pipes or parts, any moving parts or electrical connections. Do not attempt to check findings by touching the equipment with your hands or fingers. Be sure to use appropriate lockout procedures when attempting repairs.

Be careful with loose hanging parts such as the wrist strap or headphone cord when inspecting near moving mechanical devices since they may get caught. Don't touch moving parts with the contact probe. This may not only damage the part but cause personal injury as well.

When inspecting electrical equipment, use caution. High voltage equipment can cause death or severe injury. Do not touch live electrical equipment with your instrument. Use the rubber focusing probe with the scanning module. Consult with your safety director before entering the area and follow all safety procedures. In high voltage areas, keep the instrument close to your body by keeping your elbows bent. Use recommended protective clothing. Do not get close to equipment. Your detector will locate problems at a distance.

When working around high temperature piping, use caution. Use protective clothing and do not attempt to touch any piping or equipment while it is hot. Consult with your safety director before entering the area.

Need further support?
Want information regarding products or training?

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