



UE SYSTEMS INC.

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THE ULTRAPROBE 9000 MANUAL

# TABLE OF CONTENTS

OVERVIEW		3
	● Introduction	3
	● Operation Mode	3
	● Setup Mode	3
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COMPONENTS		4
	● Basic components of your kit	4
	● Plug-In Modules	4
	Scanning Module	4
	Contact Module	5
	● Pistol Grip Housing	5
	Display Panel	5
	Trigger On/Off Switch	6
	I/O Port	6
	Battery Compartment/Battery	6
	Wrist Strap	6
	Sensitivity Control Dial	6
	Storage Entry Button	6
	Head Set Jack	7
	Recharge Jack	7
<hr/>		
ACCESSORIES		7
	● Standard Accessories	7
	Headset	7
	WTG-1 Warble Tone Generator	7
	Rubber Focusing Probe	8
	Stethoscope Extension Kit	8
	4P-USB I/O Cable	8
	BCH-9 Battery Charger	8
	BCH-WTG Battery Charger	8
	● Optional Accessories	8
	LRM-9	8
	RAS-MT	9
	DHC 1 Headphones	9

## OPERATION MODE

● Display Panel	9
● Bar Graph Display	9
● Sensitivity Control Dial	10
Sensitivity / Volume Adjust	10
● Frequency Adjust	11
● Yellow Store Button	11
Store a Reading	11
Overwrite Data or Enter Data in a New Location	12
● To Download the Information	12

---

## SETUP MODE

● Text Editor	13
● Data Transfer	13
● Set Time & Date	14
● dB Scale Select	15
● dB Offset Val(Value) (This is a Reference dB Level)	16
● Display Mode	17
● Calibration Due Date	18
● Text Editor	18
● Date Format	19
● Factory Defaults	20

---

## USER INSTRUCTIONS

● Exit to Program	20
● Trisonic - Scanning Module	20
● Headphones	21
● Rubber Focusing Probe	21
● Stethoscope Module	21
● Stethoscope Extension Kit	21
● Long Range Module	21
● RAS-MT	22
● Charging the UP3000	22
● Warble Tone Generator WTG-1	22
● Charging the WTG-1	23

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## SETTING THE COMBINATION LOCK

24



# START

## OVERVIEW

### INTRODUCTION

The Ultraprobe 9000 is a versatile instrument with many features that will make for easy, fast, and accurate ultrasonic inspections. As with any new instrument, it is important to review this manual before starting any inspection program.

THERE ARE TWO MODES THAT ARE IMPORTANT TO UNDERSTAND:

#### **OPERATION MODE:**

The operation mode will be described in detail under the operation mode section. In this mode, you will perform all inspection actions such as scanning, probing, “Click and Spin” activities, and store data.

**NOTE:** “Click” operations require pressing the dial. “Spin” operations require turning a dial.

#### **SET UP MODE:**

The setup mode will be described in detail under the Set Up Mode section. There are seven menu options that will be described in that section.



## COMPONENTS

### BASIC COMPONENTS OF YOUR KIT



### PLUG-IN MODULES

**TRISONIC™ SCANNING MODULE.** This module is utilized to receive airborne ultrasound such as the ultrasounds emitted by pressure/vacuum leaks and electrical discharges. There are four prongs at the rear of the module. For placement, align the prongs with the four corresponding jacks in the front end of the pistol housing and plug in. The Trisonic™ Scanning Module has a phased array of three piezoelectric transducers to pick up the airborne ultrasound. This phased array focuses the ultrasound on one "hot spot" for directionality and effectively intensifies the signal so that minute ultrasonic emissions can be detected.



### STETHOSCOPE (CONTACT) MODULE.

This is the module with the metal rod.

This rod is used as a "waveguide" in that it is sensitive to ultrasound that is

generated internally such as within a

pipe, bearing housing or steam trap. Once stimulated by ultrasound, it transfers

the signal to a piezoelectric transducer located directly in the module housing. The module

is shielded to provide protection from stray RF waves that may affect electronic receiving

and measurement. It is equipped with low noise amplification to allow for a clear,

intelligible signal to be received and interpreted. For placement align the four prongs on the

back with the corresponding receptacles in the front of the pistol and plug in.



### PISTOL-GRIP HOUSING

**DISPLAY PANEL.** In the Operation Mode, the Display Panel will show intensity levels (as dB and as a bar graph), Frequency, Battery Level, and "Display Mode". **The Display Mode and the Battery level indications alternate (Flash).** Intensity levels are shown simultaneously as a numeric dB value and on a sixteen-segmented bar graph. The Frequency is adjustable from 20 kHz to 100 kHz. These represent the range of frequency selection capable with the Ultraprobe. The most common frequency used for general leak detection or electrical inspection is 40 kHz. These frequencies may be "tuned in" when performing inspections with any of the Ultraprobe's plug-in modules. The Display Mode indicates the operation mode of the instrument. This is indicated on the display panel as **R for Real Time**, **P for Peak Hold**, **S for Snap Shot**, or **RO for Real Time "Offset"**, **PO for Peak Hold "Offset"** and **SO for Snap Shot "Offset"**. For information about Offset see dB Scale Select in the Set-Up Mode Section.



Display Panel

Storage Entry Button

Sensitivity Control Dial



**TRIGGER ON/OFF TRIGGER SWITCH.** The Ultraprobe is always "off" until the trigger is pulled. To operate, press and hold the trigger. To turn the instrument off, release the trigger.

**SENSITIVITY CONTROL DIAL.** This is one of the most important controls in the unit. In the operation mode, this dial is used to adjust the sensitivity. When "clicked" it can change the frequency. In the Set-up Mode it moves the cursor and when the dial is depressed, sets notations.

**WRIST STRAP.** To prevent damage to the Ultraprobe, use the wrist strap to avoid dropping the instrument.

**RECHARGE JACK.** This jack receives the plug from the recharger. The recharger is designed to plug into a standard electrical receptacle.

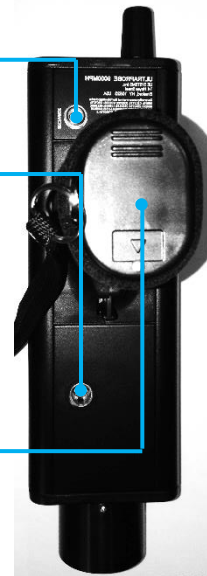
**I/O PORT.** This is the USB port for upload/download information transfer. Align the pins from the cable and plug in.

*NOTE: Before downloading data be sure the cable is connected to both the I/O port and to the computer.*

**BATTERY COMPARTMENT.** The handle contains the battery. Remove the cover to change batteries.

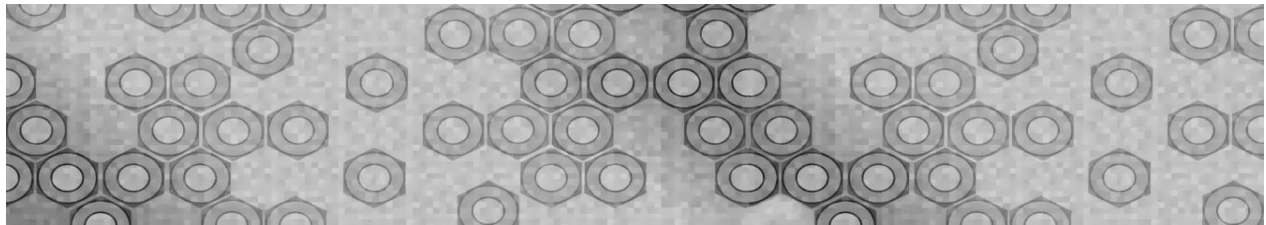
**BATTERY.** The battery is an environmentally friendly nickel metal hydride with no memory problems. A full charge will take 8 hours; however, the battery can be partially charged for shorter periods. If it is kept on charge over 8 hours, there will be no harm to the battery.

*NOTE: When the effective battery charge is used up the instrument shuts down and a message to recharge the battery will be displayed in the display panel.*



**STORAGE ENTRY BUTTON.** This yellow button is used to store data.

**HEADSET JACK.** This is where the headset is plugged in. Be sure to plug it in firmly until it clicks.



## ACCESSORIES

### STANDARD ACCESSORIES

**HEADSET.** This heavy-duty headset is designed to block out intense sounds often found in industrial environments so that the user can focus on the sounds received by the Ultraprobe. The standard headphones provide over 23 dB of noise attenuation.



**WTG-1 WARBLE TONE GENERATOR.** 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.



**RUBBER FOCUSING PROBE.** The Rubber Focusing Probe is a cone-shaped rubber shield. It is used to block out stray ultrasound and to assist in narrowing the field of reception of the "Trisonic" Scanning Module.





**STETHOSCOPE EXTENSION KIT.** This consists of three metal rods that will enable a user to reach up to 31 additional inches (78.7 cm) with the Stethoscope Probe.



**4P-USB I/O CABLE.** Standard I/O cable for downloading records from the UP9000 to the USB port on a PC.

**BATTERY CHARGER.** This is the standard battery charger for the UP9000 with a line input of 120/240 VAC @ 60/50Hz. The charging time is about 8 hours. The charger comes with adaptors for multiple world regions. The black lead is for the Ultraprobe 9000.



**WTG BATTERY CHARGER.** This is the standard battery charger for all Warble Tone Generators that are used with the UP9000. The line input is 120/240 VAC @ 60Hz/50Hz and the charging time is about 8 hours. The charger comes with adaptors for multiple world regions. The yellow lead is for the Warble Tone Generator.

## OPTIONAL ACCESSORIES

**LONG RANGE MODULE (LRM).** This uniquely designed module doubles the detection distance of a standard scanning module and provides a narrow ( $10^\circ$ ) sensing area making it ideally suited for locating ultrasonic emissions (such as a leak or electrical emission) at a distance.



**REMOTE MAGNETIC TRANSDUCER (RMT).** A magnetically mounted transducer and cable which attaches to metal surfaces such as valves and bearings. The RMT uses a magnetically mounted transducer with a BNC connection.



# OPERATION MODE

## DISPLAY PANEL

When the trigger is pressed to turn the instrument on, the Display Panel will display intensity levels simultaneously on a bar graph and as a numerical decibel value. The current selected frequency will also be shown. Remaining Battery Charge is shown in the upper right corner. The letters R, S, or P will alternate with the battery indicator in the upper right corner. R indicates that the instrument is running in "Real Time", S indicates "Snap Shot" and P indicates "Peak Hold". Should the instrument be set in the Offset Mode, then the letters RO, SO and PO will be displayed.

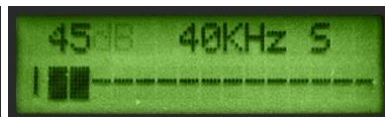
## BAR GRAPH DISPLAY

The bar graph has 16 segments. Each segment represents 3 decibels. At the end of the bar graph is a vertical line, which indicates the peak intensity. This is a Peak Hold function. When in operation, the bar graph will move up and down the scale as an indication of the amplitude of a sensed ultrasound. The Peak Hold indicator will remain at the highest sensed intensity during an inspection until:

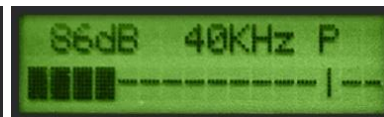
- A new maximum reading is detected, or ● the trigger is released and the instrument is turned off. At which time it will reset.



Real Time = R Flashes



Snap Shot = S Flashes



Peak Hold = P Flashes

**These Letters (R, S, or P) alternate with the battery level indicator**

## SENSITIVITY DIAL

### TO ADJUST THE SENSITIVITY

- Look at the meter. If the instrument is within range, the dB decibel indicator must blink. The kHz (frequency), indicator must be steady and not blink.
- If the frequency indicator is blinking, click in the sensitivity control dial until the frequency indicator is steady and the decibel indicator blinks. The instrument is now in sensitivity adjustment mode.

- Once in the Sensitivity mode, turn the Sensitivity dial clockwise to increase the sensitivity and counter clockwise to decrease the sensitivity.

- The Sensitivity control dial increases/decreases the sensitivity of the instrument simultaneously with the sound level in the headphones.

**NOTE:** *The instrument needs to be in range for accurate testing.*

- **If the sensitivity is too low**, a blinking arrow pointing to the right will appear and there will be no numeric decibel visible in the display panel. If this occurs, increase the sensitivity until the arrow disappears (in low level sound environments the arrow will blink continuously, and it will not be possible to achieve a dB value until a higher intensity level is sensed).

- **If the sensitivity is too high**, a blinking arrow pointing to the left will appear and there will be no numeric decibel visible on the display panel. Reduce the sensitivity until the arrow disappears and the numeric decibel value is shown.

**NOTE:** *The blinking arrow indicates which direction the Sensitivity Control Dial needs to be turned.*

- The Sensitivity Control Dial controls the bar graph display.

- Each click of the sensitivity dial changes the volume in the headset by 1dB

**NOTE:** *The actual incident sound wave dB does not change when the sensitivity is adjusted. Only the headset volume.*

## TO ADJUST THE FREQUENCY

- Look at the meter. The kHz indicator must blink to be able to tune the frequency.

- If it is not blinking, "Click" the Sensitivity control dial one time and the kHz indicator in the display panel will blink.

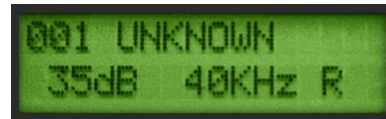
- When the kHz indicator blinks, change the frequency by rotating the Sensitivity dial up (clockwise) or down (counter clockwise).

## THE YELLOW STORE BUTTON

### TO STORE A READING

- Press the yellow Store button. This puts the instrument in the data storage mode. In the data storage mode, the display panel will change.
- The Storage Location is shown in the upper left corner. There are 400 Storage Locations numbered 001 to 400. If the Storage Location has no data in it, the display will show: "NOT USED".
- If there has been information stored in the selected location, the upper section of the display will indicate that information. The text field (if previously selected), Time, Date, Decibel, Frequency and Operation Mode "R", "S", "P" (RO, SO, or PO with offset Value in the Offset Mode) will blink and alternate (scroll). The text field, if previously selected in the Set-Up Mode, may be used to record notes or codes.
- The lower left corner of the display indicates the current decibel level selected for storage.
- The lower right of the display indicates the current frequency selected for storage.
- The lower right corner of the display indicates the Operation Mode "R", "S" or "P", RO, SO, or PO.

#### Data Storage Mode Display



### TO STORE THE READING

- Press the Store Button again and the data will be stored and displayed on top.

### TO OVERWRITE DATA OR TO ENTER DATA IN A NEW LOCATION

- Press the yellow Store button to enter the data storage mode.
- Spin the Sensitivity Dial until the desired storage location is displayed on the screen
- Press the yellow Store button to store the new information in that location and proceed as described above.
- To return to the operation mode, Click the Sensitivity Control Dial.

**NOTE:** *When using the Ultratrend software it is possible to enter a new reading that is out of sequence by spinning to the last unused memory location (if all 400 locations are not filled) and entering the data as described above. Following instructions in Ultratrend DMS, a new sequential order can be updated to include the new item(s) for future inspections.*

## TO DOWNLOAD THE INFORMATION

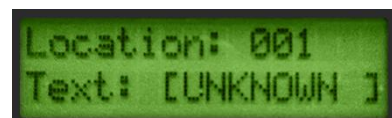
- Refer to Setup Mode, 01 Data Transfer

## TEXT EDITOR

### TO ENTER TEXT IN THE TEXT FIELD

- If enabled (refer to SET UP MODE 07), Press the yellow Store Button once after storing data
- The text field will blink. If the field has no entry, it will display “UNKNOWN” and the first character will blink.
- The Sensitivity control dial can be used to scroll through the alphabet, A-Z, a space character and then through numbers 0-9. Spin the Sensitivity dial clockwise to move up the alphabet and then to numbers or counter clockwise to move back through numbers (9-0) and then back down the alphabet (Z-A).
- To enter, click the Sensitivity Control Dial to enter the text character.
- The next location to the right will then blink. Continue until through or until all 8 fields are filled.
- If an error in recording a letter or number occurs, click the Sensitivity Control Dial and the cursor will move to the right. Continue clicking the Sensitivity Control Dial and the cursor will “wrap” around to the right until the desired location is reached. As explained above, spin the Sensitivity Control Dial until the corrected entry is displayed and “click” the Sensitivity Control Dial to enter the text character.
- When the text is correct, press the yellow Store Button to save and store the text. The instrument will return to the Operation Mode.

**Text Editor Display**



## SETUP MODE

### TO ENTER THE SET UP MODE

- Make sure the Ultraprobe is off.
- Press (click) both the yellow Store button and the Sensitivity dial at the same time. Only after these two controls have been pressed, then squeeze the trigger.

**NOTE:** *Hold the Trigger in during any of the Set Up Mode operations.*

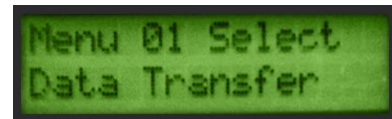
- When in the first Menu mode: “Data Transfer,” it is possible to move to any of the other Menu modes by spinning the Sensitivity Control up or down (clockwise or counter clockwise).
- When the desired Menu mode is reached, push (Click) the Sensitivity Control in.
- It is possible to spin to enter and exit any Menu mode in the Set Up mode if the trigger on/off switch is pressed.

## MENU 01 DATA TRANSFER

**NOTE:** *Before downloading data, be sure the Ultraprobe is connected to the computer.*

### TO DOWNLOAD DATA FROM THE ULTRAPROBE TO A COMPUTER

- Follow steps 1-3 in Set Up Mode
- The first selection to be displayed on the screen will be “Menu 01 Data Transfer”.
- Click the Sensitivity Control Dial and all the data will be transferred to the PC.

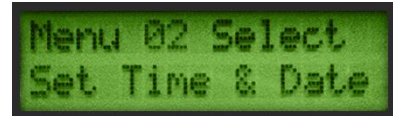


**NOTE:** *For software management, refer to Ultratrend™ Instructions.*

## MENU 02 SET TIME AND DATE

- Make sure the Ultraprobe is off.
- Press (click) both the yellow Store button and the Sensitivity dial at the same time, then squeeze and hold the trigger.
- When in the first Menu Selection: “Data Transfer” (Menu 01), the user may move to any other Menu Selections by spinning the Sensitivity dial up or down (clockwise or counter clockwise).
- Spin to “Set Time and Date” (Menu 02) blinks and click. (EXIT Blinks).
- Spin to desired month or day or year and Click (selected number will blink rapidly).
- Spin to select a new value
- Click to set.
- Spin to TIME setting and click on Hour or Minute (the displayed number will blink rapidly).
- Once an hour or minute has been selected, spin to select a new value.

- Click to set.
- When finished, Spin the Sensitivity dial until "EXIT" flashes.
- Click the Sensitivity dial again and return to the Set Up Mode.
- Spin to "Exit to PGM" (Exit to Program) (Menu 10) blinks. Click to enter Operation Mode



**NOTE:** *To change date format from US to International Standard see Menu 08 Date Format.*

## **MENU 03 DB SCALE SELECT**

dB Select has two settings from which to choose. These settings will determine the baseline dB reference level of the instrument. Once selected, all test results will be based on the selected baseline dB level.

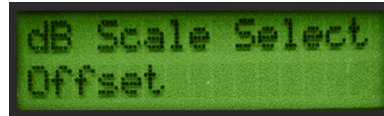
### **THERE ARE TWO SCALES: RELATIVE AND dB OFFSET**

**Relative** sets the instrument to the 0 dB of the instrument's internal minimal detection value and is the factory default setting.

**dB offset** is a dB level that is a new minimum reference level set by the user. This value may be any dB level above the natural 0 dB of the instrument. Once set, the preset level must be subtracted from the reading to determine an accurate dB increase. (EG: if "10" is the dB offset value and a subsequent reading is 25 dB, then the increase is 15 dB.)

### **TO SELECT A dB REFERENCE SCALE**

- Make sure the Ultraprobe is off.
- Press (click) both the yellow Store button and the Sensitivity dial at the same time, then squeeze and hold the trigger.
- When in the first Menu Selection: "Data Transfer" (Menu 01), the user may move to any other Menu Selections by spinning the Sensitivity dial up or down (clockwise or counter clockwise).
- Spin to "dB Scale Select" (Menu 03) blinks.
- Click in the Sensitivity Control.
- Spin the Sensitivity Control to the desired scale (Relative or Offset).
- Click the Sensitivity Control to set and return to the set-up mode.
- Spin to "Exit to PGM" Exit to Program (Menu 10) blinks. Click to enter Operation Mode

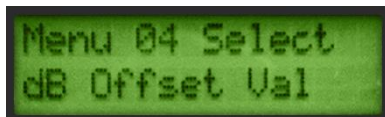


## MENU 04 dB OFFSET

This position is selected to set the dB scale for readings to be taken in dB offset scale. In order to use the dB offset scale, refer to Menu 03 instructions above.

### TO SET THE dB OFFSET SCALE

- Make sure the Ultraprobe is off.
- Press (click) both the yellow Store button and the Sensitivity dial at the same time, then squeeze and hold the trigger.
- When in the first Menu Selection: "Data Transfer" (Menu 01), the user may move to any of the other Menu Selections by spinning the Sensitivity Control up or down (clockwise or counter clockwise).
- Spin to "dB Offset Val" value (Menu 04) blinks and click in the Sensitivity Control.
- The dB Val (00) will blink.
- Spin the Sensitivity Control to the desired dB value level.
- Click the Sensitivity Control to set and return to Set Up Mode.
- Spin to "Exit to PGM" Exit to Program (Menu 10) blinks. Click to enter Operation Mode.





## MENU 05 DISPLAY MODE

### **THERE ARE THREE MODES TO CHOOSE IN DISPLAY MODE: REAL TIME, SNAPSHOT AND PEAK HOLD**

**Real Time** is the standard operation of the instrument. For basic inspection operations choose Real Time. Snapshot is a very useful mode for inspections that require a comparison of measurements.

**Snapshot** holds a specific reading on the display. The display can be updated by releasing and pressing the trigger. An example of this operation mode would be to locate the loudest point in a machine. By pointing the instrument at a loud signal and pressing the trigger, the sound intensity level will be displayed on the panel and held for comparison as the instrument is scanned around other points on the machine. The meter will remain constant while the audio levels change. Another example is performing a quick comparison of multiple bearings by pressing and releasing the trigger to update and compare sound levels.

**Peak Hold** displays and holds the peak value for comparison. It changes only when a higher ultrasound level is sensed. The bar graph will move up and down to display sound intensities, but the Peak Hold dB reading in the upper left corner will remain constant. A thin vertical line on the bar graph indicates the peak intensity of the bar graph. The Peak Hold dB reading is reset by turning the instrument off or by changing the frequency.

### **TO SELECT DISPLAY MODE**

- Make sure the Ultraprobe is off.
- Press (click) both the yellow Store button and the Sensitivity dial at the same time, then squeeze and hold the trigger.
- When in the first Menu Selection: "Data Transfer" (Menu 01), the user may move to any of the other Menu Selections by spinning the Sensitivity Control up or down (clockwise or counter clockwise).
- Spin to "Display Mode" (Menu 05) blinks.
- Click the Sensitivity Control to enter Display Mode.
- Spin the Sensitivity Control dial until the desired setting (Real Time, Snap Shot or Peak Hold) appears and blinks.
- Click the Sensitivity Control Dial to set and return to Set Up Mode.
- Spin to "Exit to PGM" Exit to Program (Menu 10) blinks. Click to enter Operation Mode



## MENU 06: CALIBRATION DUE DATE

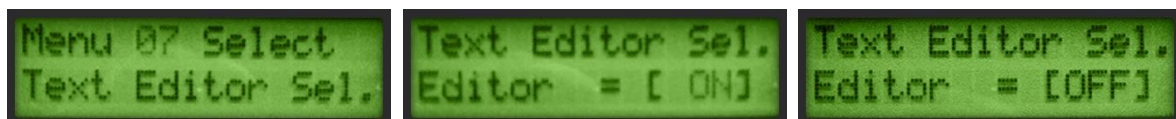
Shown as **“Cal Due Date”** in the menu, this date is set at the factory and displays the recommended Recalibration/service date. This is one mode that cannot be changed by a user. It is only set at the factory after a service has been performed.

## MENU 07: TEXT EDITOR

Text editor will enable or disable text entry when a reading is to be saved during the operation mode. If text notes are to be manually entered, select the ON mode. If text has been preset in the Ultratrend™ software or if text entry is not needed, select OFF.

### TO SELECT TEXT EDITOR

- Make sure the Ultraprobe is off.
- Press (click) both the Yellow Store button and the Sensitivity dial at the same time, then squeeze and hold the trigger.
- When in the first Menu Selection, “Data Transfer” (Menu 01), the user may move to any of the other Menu Selections by spinning the Sensitivity Control up or down (clockwise or counter clockwise).
- Spin until “Text Editor Sel” Select (Menu 07) blinks.
- Click the Sensitivity Control Dial to enter the Text Editor enable mode.
- Spin the Sensitivity Control Dial to select OFF or ON.
- Click the Sensitivity Control Dial to set and return to Set Up Mode
- Spin to “Exit to PGM” Exit to Program (Menu 10) blinks. Click to enter Operation Mode




## MENU 08: DATE FORMAT

Date format can be changed from the US (month/day/year) to the international: (day/month/year).

### TO CHANGE THE DATE FORMAT

- Make sure the Ultraprobe is off.
- Press (click) both the yellow Store button and the Sensitivity dial at the same time, then squeeze and hold the trigger.
- When in the first Menu Selection, "Data Transfer" (Menu 01), the user may move to any of the other Menu Selections by spinning the Sensitivity Control up or down (clockwise or counter clockwise).
- Spin to "Date Format", (Menu 08) blinks.
- Click the Sensitivity Control Dial to enter the Date Format enable mode.
- Click in the Sensitivity Control
- The mm/dd/yy will be blinking
- Spin the Sensitivity Control to dd/mm/yy
- Click the Sensitivity Control to exit



Menu 08 Select  
Date Format Sel.

## MENU 09: FACTORY DEFAULTS

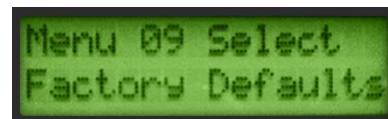
This mode allows users to retain or to delete the information stored in the instrument and to restore the factory default settings of the instrument. **Confirm = YES** means that the onboard computer will default to original factory settings and all stored data will be deleted. **Confirm = NO** retains all stored data and current instrument settings.

### THE FACTORY DEFAULT SETTINGS

- Maximum Sensitivity
- Frequency = 40 kHz
- Display Mode = Real Time
- dB Scale = Relative
- Offset Value = 0
- Text Editor = ON
- Peak Value Indicator (bar graph) = 0

### TO SELECT FACTORY DEFAULTS

- Make sure the Ultraprobe is off.
- Press (click) both the yellow Store button and the Sensitivity dial at the same time, then squeeze and hold the trigger.
- When in the first Menu Selection: "Data Transfer" (Menu 01), the user may move to any of the other Menu Selections by spinning the Sensitivity Control up or down (clockwise or counter clockwise).
- Spin to "Factory Defaults" (Menu 08) blinks.
- Click to enter the Factory Default Set Up Mode
- Spin up or down to select either YES or NO.
- Click to set and return to Set Up Mode.
- Spin to "Exit to PGM" Exit to Program (Menu 10) blinks.  
Click to enter Operation Mode.



## MENU 10: EXIT TO PROGRAM

- This is shown as "Exit to PGM" in the menu, click the sensitivity dial. This will exit to the operations mode.



# USERS INSTRUCTIONS

## TRISONIC SCANNING MODULE

- Plug in to front end
- Align the pins located at the rear of the module with the four jacks in the front end of the Metered Pistol Housing (MPH) and plug in.
- Start to scan the test area

## HEADPHONES

To use, firmly plug the headphone jack into the “Phones” receptacle on the pistol housing.

## RUBBER FOCUSING PROBE

The Rubber Focusing probe fills two functions: it deflects stray ultrasounds and enhances the reception of weak airborne signals. 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/or removing the Rubber focusing Probe.*

## STETHOSCOPE MODULE

- Align the pins located at the rear of the module with the four jacks in the front end of the Metered Pistol Housing (MPH) and plug in.
- Touch test area

## STETHOSCOPE EXTENSION KIT

- Remove the Stethoscope Module from the Metered Pistol Housing.
- Unscrew the metal rod in the Stethoscope Module.
- Choose the rod that is the middle length of the three this is the "base piece".
- Screw the Base Piece into the Stethoscope Module.
- If all 31" (78.7 cm) are to be utilized, locate the middle piece. (This is the rod with a female fitting at one end) and screw this piece into the base piece.
- Screw third "end piece" into middle piece.
- If a shorter length is desired, omit step 5 and screw "end piece" into "base piece".

## LONG RANGE MODULE

- Plug in to front end.
- Align the plug located at the rear of the module with the receptacle in the front end of the Pistol Housing and plug in.
- Start to scan the test area



### RAS-MT

The magnetically mounted transducer acts as a wave guide. The cable attaches to the RAM (Remote Access Module) which is plugged into the pistol grip housing.

- Make sure RAS-MT cable is attached to the RAM
- Plug RAM into the front end.
- Place the magnet transducer on the test point

## TO CHARGE THE UP9000

- Plug recharger cable into recharger jack on the UP9000 and then plug the recharger into a wall receptacle.
- Make sure that the LED on the charger is lit when recharging.
- The LED turns OFF when the battery is charged. The instrument may stay connected to the charger without damaging the battery.

**WARNING:** Only use the supplied UE Systems recharger. Use of unauthorized rechargers will void the warranty and may damage the battery and or instrument.

## WARBLE TONE GENERATOR (UE WTG 1)

- Turn Tone Generator on by selecting either "LOW" for a low amplitude signal (usually recommended for small containers) 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 at 40 kHz. A 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

- Plug the Tone Generator plug (yellow) on the Warble Tone Generator and then plug the recharger into an electric outlet.
- Make sure that the red LED on the charger is lit when recharging.
- The LED turns OFF when the battery is charged.

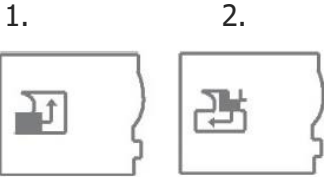
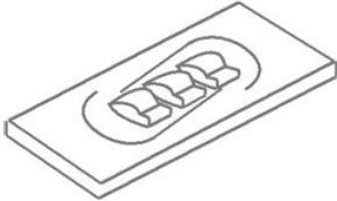


# INSTRUCTIONS FOR SETTING COMBINATION ON CARRYING CASE

The combination is factory set at --0--0--0

## SETTING YOUR PERSONAL COMBINATION

- Open the case. Looking at the back of the lock inside the case you will see a change lever. Move this change lever to the middle of the lock in a way that allows it to hook behind the change notch (drawing 1).
- Set your personal combination, turning the dials to the desired combination (i.e. birthday, phone #, etc.).
- Move the change lever back to the normal position (drawing 2).
- To lock, rotate one or more dials. To open, set to your personal combination.



INTERNATIONAL PATENTS PENDING

**YOUR PERSONAL COMBINATION:**





Need further support?  
Want information regarding products or training?

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