

# Ultraprobe® 401

## Digital Grease Caddy Pro

### Instruction Manual



V 1.2

**ue**  
**SYSTEMS INC**  
The *ultrasound approach*

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## **Instructions for Ultraprobe 401 Digital Grease Caddy Pro:**

### **I. Overview:**

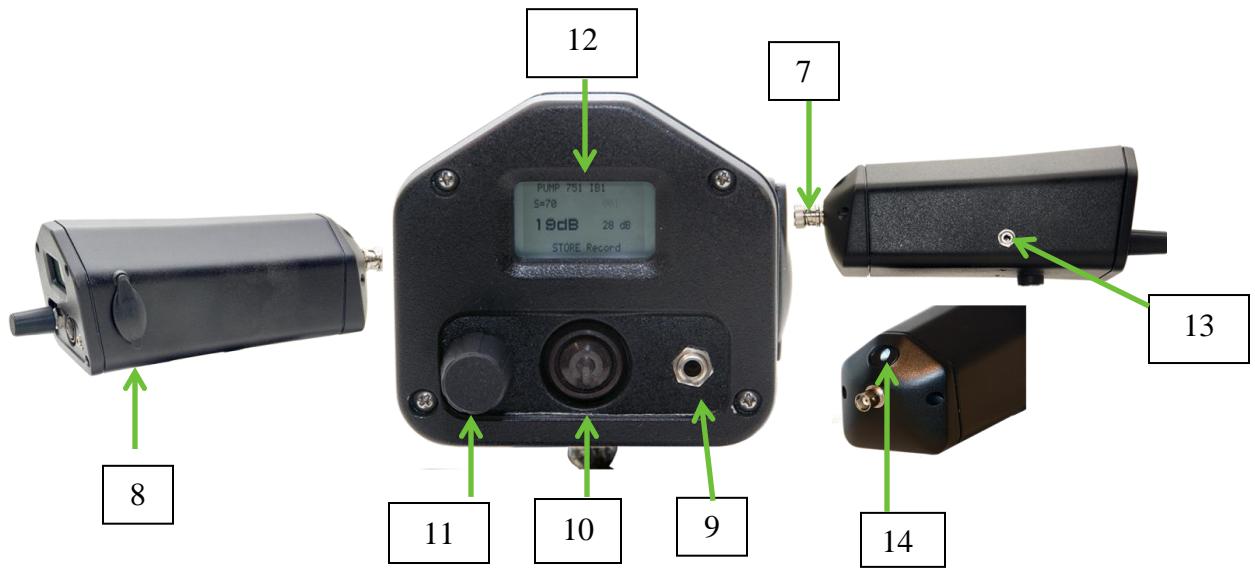
The 401 Digital Grease Caddy Pro is an important element to ultrasound assisted lubrication. Through uploading and downloading of bearing data it lets users know when to stop adding lubrication as well as provide data of lubrication history that adds to analysis of bearing condition to prevent premature failure.

### **II. Main Features:**

#### A. Basic Components



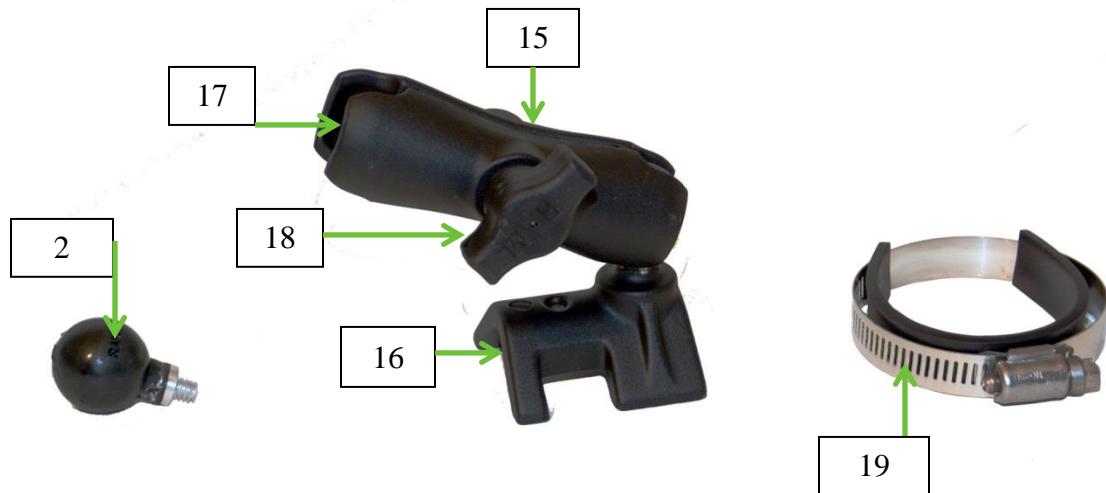
1. Digital Grease Caddy housing
2. Mount Ball
3. Headphones
4. RAS-MT Magnetic Transducer
5. Charging unit
6. Docking Station
20. Holster with Belt



**B. Main Unit:**

7. BNC connector for magnetic mount probe
8. SD card slot
9. Headphone jack
10. On off button
11. Sensitivity/Spin and click dial
12. Display panel
13. Recharge Jack
14. LED Flash Light

### C. Grease Gun Mounting Kit



- 2. Mount Ball
- 15. Mount
- 16. Grease Gun Mount foot
- 17. Open clamp end
- 18. Clamp Knob
- 19. Grease Gun Ring with foam strip

#### a. Mounting the 401 Digital Grease Caddy to Grease Gun:

1. Screw Mount Ball (2) into threaded fitting on the bottom of the Digital Grease Caddy housing as shown.
2. Place Mount (14) on Grease gun so that the Grease Gun Mount Foot (15) is resting on the grease gun.
3. Place Grease Gun Ring with foam strip (18) around the Grease Gun and over the Mount foot (15).
4. Tighten the Grease Gun Ring until the mount is firmly in place
5. Attach the Digital Grease Caddy by placing the Gun Mount Ball (2) in the open clamp end (16).
6. Tighten the clamp knob (17).

### III. Setup:

- a. Attach the 401 Digital Grease Caddy mount to the grease gun as described above.
- b. Attach the Magnetic Mount transducer cable (4) to BNC connector (7).
- c. Plug in the Headphones (3) to the Headphone jack (9).



Docking station mounted on end of grease gun tube

Digital Grease Caddy Mounted

#### **IV. Getting Started:**

- A. Before getting started become familiar with the operational features.
  - a. On/Off Button: Press the On/Off button (10) to turn the instrument on. To turn off press and hold the button again
  - b. Sensitivity/Spin and Click dial (11): use this dial to store data, move around the various screens and to setup the instrument (See Section B-1: Moving around the screens using the Sensitivity/Spin & Click dial).
  - c. The SD card slot (8): is where you place the SD card. Lift the cover and insert the SD card. *The card must be inserted to store data and to review baseline data.*
  - d. The charge Jack (13): is where you insert the recharger plug (5). A green light will blink as the unit is charging a solid green will indicate a full charge.
  - e. BNC Connect: be sure the magnetic mount transducer is attached via the BNC connector before any lubricating is performed.
  - f. *Before operating, be sure the magnetic transducer is attached to the docking station (6) and the docking station is mounted on the end of grease gun tube as shown above.*

#### **V. Display Panel Screens and Functions**

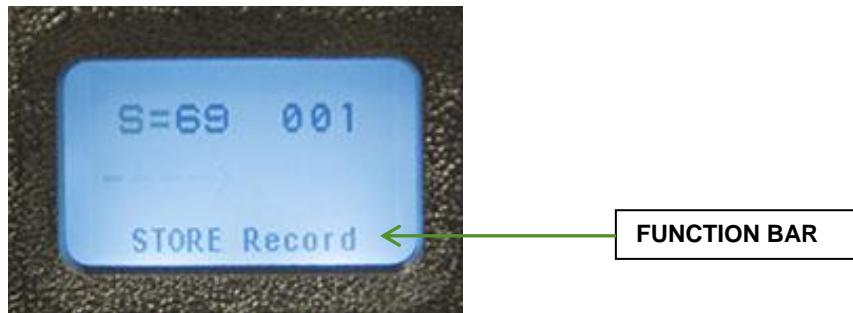
##### **1. Moving around the screens using the Sensitivity/Spin & Click dial:**

- a. To move around a screen or to enter and use a feature of the “Function Bar” (described below) there are two ways to use the Sensitivity/Spin and Click dial.

The first is to lightly click to move the blinking indicator/cursor to a feature on the display screen. For example, if you want to adjust the sensitivity, click the Sensitivity dial until the S= blinks. Spin the Sensitivity dial clockwise (UP) or counterclockwise (DOWN) to adjust the sensitivity.

The second method is to push and firmly hold the Sensitivity/Spin & Click dial. This is used to store a reading or enter any of the Function Bar features.

1. **FUNCTION BAR:** The “Function Bar” is located on the bottom of each Display screen (Display Screen 1 and Display Screen 2).  
There are 4 selections: SD INFO, Display 1, Display 2, Setup Menu, STORE record. To enter and use any of these Functions:
  - a. Click the Sensitivity dial until the Function Bar blinks.
  - b. Locate the desired Function menu by spinning the Sensitivity Dial
  - c. Push and briefly hold the Sensitivity Dial to select and enter the Function.



2. **Changing Display Screens:** To change from one display screen to another:
  - a. Click the Sensitivity dial until the Function Bar blinks
  - b. If the Display screen is not shown, spin the Sensitivity dial until it is visible
  - c. Push and hold the Sensitivity Dial while noting the screen change
  - d.
3. **Storing a Record:** The STORE Record prompt is located on the Function bar of both Display 1 and Display 2.
  - a. If STORE Record is not shown, click the Sensitivity dial until the cursor blinks on the Function Bar and spin the Sensitivity dial until STORE Record is displayed.
  - b. To store a record, push and briefly hold the Sensitivity dial. The screen will display “Store record confirmed” and move to the next storage location



i.

There are four screens: 2 Display Screens and 2 “Function Bar” Screens

1. **Display Screen 1:**
  - a. Displays:

Sensitivity value S=, record location (001- 400), dB level and the “Function Bar” on the bottom of the screen.



This is Display 1 showing the ability to move to Display 2 shown in the Function bar.

## 2. Display Screen 2:

### a. Displays:

Sensitivity value (S=), record location (001- 400), dB level along with a bar graph intensity indicator and the “Function Bar” on the bottom of the screen.



This is Display 2 showing the ability to move to Display 1 shown in the Function bar.

## 3. SD info (Function Bar Screen): Contains SD card information; Spin to a feature, click to use:

1. Delete all files (Click to enter, spin to “yes”)
2. Free space and info (Click to enter)
3. Display files

To exit push and briefly hold the sensitivity dial.



**Setup Screens:** NOTE: before lubricating, be sure to use the setup menu to customize instrument function and data collection method.

4. **Setup menu (Function Bar Screen):** There are 18 Setup menus. To enter and use any of the Setup menus:
- a. click the Sensitivity dial until the cursor blinks on the Function Bar
  - b. If Setup menu is not shown, spin the Sensitivity dial until Setup menu appears. Push and hold the Sensitivity dial until the first screen appears. To move to a specific setup item, spin the Sensitivity dial to the setup menu number (1-18). Push and hold to enter and use.

**A. Setup Menu Screens:**

**1. Add/Remove SD card:**

- a. Be sure to insert the SD card *before* turning the Ultraprobe on.
- b. The Group data will be read by the Ultraprobe on power up.
- c. On power down (off), all data and WAV files are stored on the SD card.
- d. The Add/Remove SD Card function allows users to change the card while the unit is on.
- e. While the power is on, a warning will advise against removal (unless Menu 01 is selected).

**\*\*There is a risk of losing data if the SD card is removed without activating Menu 01.  
The SD card must be inserted into the Grease Caddy in order to review and store data\*\***



**2. Store Before/After:** When selected, this function allows the user to store decibel readings before adding lubricant and after adding lubricant.

To set this function:

- A. Enter set up mode and go to Menu 2.
- B. Click the sensitivity dial to select and spin it to "on".
- C. Then click the sensitivity dial to set .



D. To exit press and hold the sensitivity dial.



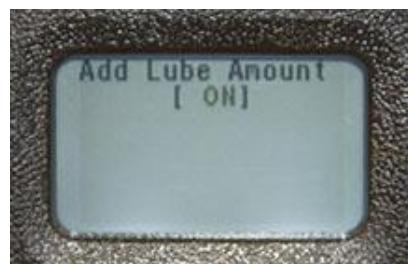
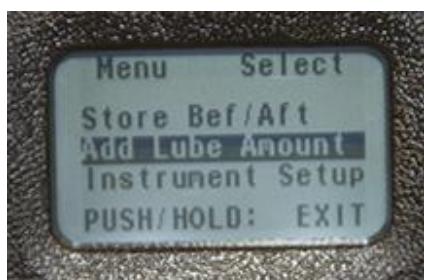
**3. Add lube amount:** The number of strokes of the grease gun used to apply the grease can be added after the lubricant has been applied and Add Lube Amount has been selected.

To select this feature:

A. Enter set up mode and go to Menu 3.

B. Click the sensitivity dial to select and spin it to "on".

C. Then click the sensitivity dial to set D. To exit press and hold the sensitivity dial.



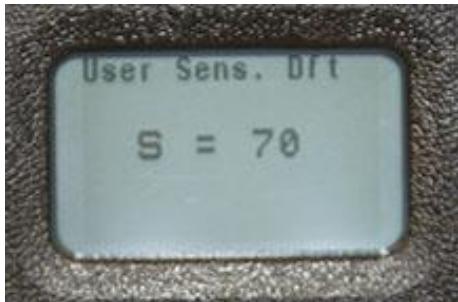
**4. Instrument Set-Up:** Press to enter. The selections are Manual and Auto. Spin to select click to set and exit.



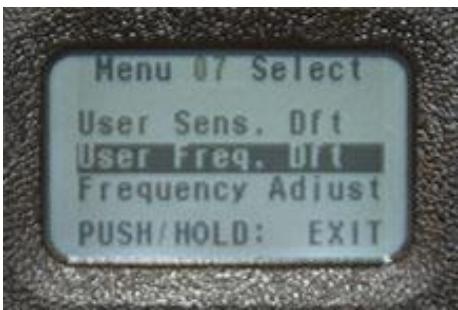
**5. Default Settings:** Click to enter spin to yes for factory defaults or no to keep current settings, Click to set and exit:



**6. User Sensitivity Default:** Click to enter. The default value is 70. Spin to the desired value, click to set and exit:



**7. User Frequency Default:** Click to enter, spin click to set and exit to set the desired frequency. The frequency range is 20 kHz to 100 kHz.



**8. Frequency Adjust:** This feature allows the user to change frequencies between 20 kHz and 100 kHz in one kHz steps..



**9. Display Response:** Click to enter the selections. They are Slow, Medium & Fast. Spin to select then Click to set and exit.



**10. Headphone Volume:** This feature allows you to adjust the sound level or volume level in the headphone. Click to enter the volume selections range from 0% to 99%. The default value is 95%.



**11. Enter Inspector ID:** Click to enter. There are three alphanumeric spaces, spin to the left or right, select a number or letter, click to move between the three entry blanks. Click and hold to set and exit.



**12. Set Time and Date:** Click to enter. Spin to a desired value, click to sit spin to Exit click to exit and set. The date format is shown on the screen.



**13. Date Format:** You can change the value from month/day/year to day/month/year. Click to enter spin to the format click to set and exit.



**14. CAL Due Date:** The date for instrument calibration is shown on the top of the screen.



**15. DB Scale Type Select:** The choices are Relative and Offset.



16. **dB Offset Value:** Click to enter. Spin for values -12-15, Spin to the right for values 1-15.  
Click to set and exit.



17. **Battery Level:** Click to see how much charge is left.



18. **UPGRADE UEDGC PGM:** This is where you would upgrade the firmware for your Digital Grease-Caddy whenever UE Systems has a firmware available.

19. **BACK:** This moves you back to menu1.

## VI. Other Features

### A. Selecting Sensitivity

The Sensitivity is displayed on both Display Screen 1 and 2 as **S=**. The highest sensitivity value is 70, the lowest is 0. In order to adjust the sensitivity value the **S=** must blink on the display screen. If it is not blinking:

1. Click and release the sensitivity dial and observe which feature is blinking. Keep clicking until the **S=** blinks.
2. Spin the Sensitivity dial to the right (clockwise) to increase the sensitivity value or to the left (counter clockwise) to decrease it.

### B. Changing Storage Record Number

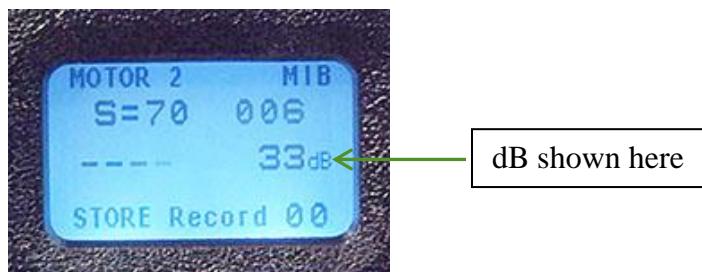
To change the storage location before storing a reading:

1. Click around the screen using the sensitivity dial until the record number in the upper right corner blinks.
2. Spin the sensitivity dial to the preferred record number.
3. Click firmly to set; the cursor will move to the function bar.
4. If Store Record is showing on the function bar press to store.
5. If store record is not showing spin until it does show. Then press the sensitivity dial to store.



**C. To view data stored in a record number:**

1. Click to the function bar and spin until display 1 is shown.
2. Press the sensitivity dial to select display 1 3. Click the sensitivity dial until the record number in the upper right corner blinks
4. Spin the Sensitivity dial either left or right to view the record. The decibels will be shown in the middle right of the screen.



**D. Recording the amount of lubricant added:**

There are two methods to enter the lube amount added. The first is without using the "Store Before and Store After" function. The other is to use the "Store Before and Store After" function.

**1. Without Before and After**

- a. Be sure you have selected add lube amount in the set up menu.
- b. After adjusting your sensitivity to obtain the proper DB reading, click the sensitivity dial until the 00 is blinking in the function bar.
- c. Then add lubricant and record the number of strokes used by clicking the power button. Each click will equal one stroke.
- d. When through press and hold the sensitivity dial to store the record.



**2. Using with the Before and After function**

- a. To use this feature, go to set up menu and select add lube amount.
- b. Store the decibel reading before adding lubricant. This will be in the store before record shown in the function bar.
- c. Then add lubricant and record the number of strokes used by clicking the power button. Each click will equal one stroke.
- d. When through press and hold the sensitivity dial to store the record.



<b>Ultraprobe 401 Digital Grease Caddy Specifications</b>	
Housing:	Attaches directly to the grease gun, gives visual and audible indication for proper lubrication
Construction:	PC + ABS Plastic
Dimensions:	7.0"x3.2"x3.0" :::: 17.8x8.1x7.6 cm (LWH)
Circuitry:	Solid State Analog and SMD Digital Circuitry with temperature compensation and true RMS conversion
Memory:	400 Storage locations
Outputs:	Calibrated heterodyned output, decibel (dB)
Transducer:	Magnetically Mounted Piezoelectric transducer
Headset:	Deluxe noise isolating headset for hard hat use Over 23 dB of noise attenuation Meets or exceeds ANSI Specifications and OSHA standards
Frequency Response:	Peak response: centered around 38 kHz
Response Time:	<10 ms
Display:	128x64 LCD with LED backlight
Operating Temperature:	32°F to 122°F :::: 0° to 50° C
Relative Humidity:	10-95% non-condensing at up to 86° F :::: 30° C
Indicators:	dB, Battery Status and 16 Segment Bar Graph
Attachment:	Universal: fits most commercially used cartridge grease guns
Power:	Lithium Polymer rechargeable
Weight:	1.25 Lbs. :: .57 kg
Warranty:	5-year parts/labor standard
Covered by one or more of the following patents: 0151115, 0303776, 0315199, 1206586, 1297576, 1881263, 2562758, 2689339, 4416145, 4823600, 5955670, 6122966, 6339961, 6341518, 6415645, 6655214, 6707762, 6804992	
UE Systems is committed to continual product improvement: therefore specifications are subject to change without notice. Warranty details are available by request.	



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