



UE SYSTEMS INC.

THE ULTRAPROBE 401
GREASE CADDY MANUAL

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START

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.

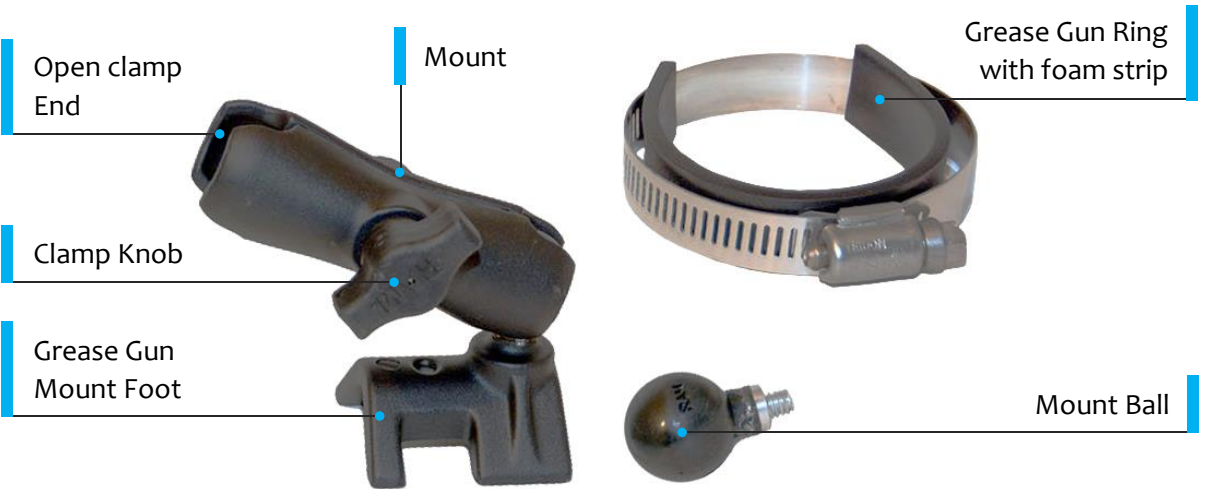
BASIC COMPONENTS OF THE UP401 GREASE CADDY KIT



MAIN UNIT



GREASE GUN MOUNTING KIT





MOUNTING AND SETUP

MOUNTING THE 401 DIGITAL GREASE CADDY TO GREASE GUN

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

SETUP

- Attach the 401 Digital Grease Caddy mount to the grease gun as described above.
- Attach the Magnetic Mount transducer cable to BNC connector.
- Plug in the Headphones to the Headphone jack.

COMPLETED ASSEMBLY





USERS INSTRUCTIONS

GETTING STARTED

- On/Off Button: Press the On/Off button to turn the instrument on. To turn off press and hold the button again.
- Sensitivity/Spin and Click dial: 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).
- The SD card slot: Lift the cover and insert the SD card. The card must be inserted to store data and to review baseline data.
- The charging jack: Location to insert the recharger plug. A green light will blink as the unit is charging a solid green will indicate a full charge.
- BNC Connect: Be sure the magnetic mount transducer is attached via the BNC connector before any lubricating is performed.
- Before operating, be sure the magnetic transducer is attached to the docking station and the docking station is mounted on the end of grease gun tube as shown above.

DISPLAY PANEL SCREENS AND FUNCTIONS

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.

- Lightly click to move the blinking indicator/cursor to a feature on the display screen. For example, 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.

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.



Function Bar

TO ENTER AND USE THESE FUNCTIONS

- Click the Sensitivity dial until the Function Bar blinks.
- Locate the desired Function menu by spinning the Sensitivity Dial.
- Push and briefly hold the Sensitivity Dial to select and enter the Function.

TO CHANGE DISPLAY SCREENS

- Click the Sensitivity dial until the Function Bar blinks.
- If the Display screen is not shown, spin the Sensitivity dial until it is visible.
- Push and hold the Sensitivity Dial while noting the screen change.

TO STORE A RECORD

The STORE Record prompt is located on the Function bar of both Display 1 and Display 2.

- 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
- 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



THERE ARE FOUR SCREENS: TWO DISPLAY SCREENS AND TWO “FUNCTION BAR” SCREENS

DISPLAY SCREEN 1

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

DISPLAY SCREEN 2

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



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

SD INFO (FUNCTION BAR SCREEN). Contains SD card information;
Spin to a feature, click to use:

- Delete all files (Click to enter, spin to “yes”)
- Free space and info (Click to enter)
- Display files
- To exit push and briefly hold the Sensitivity dial



SETUP SCREENS

SETUP MENU (FUNCTION BAR SCREEN). There are 18 Setup menus. To enter and use the setup menus:

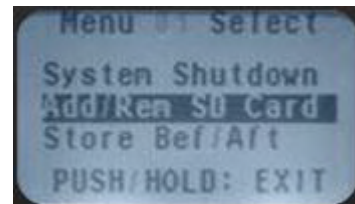
- Click the Sensitivity dial until the cursor blinks on the Function Bar.
- If Setup menu is not shown, spin the Sensitivity dial until Setup menu appears. Push and hold the Sensitivity dial until the first screen appears. To move to a specific setup item, spin the Sensitivity dial to the setup menu number (1-18). Push and hold to enter and use.

SETUP MENU SCREENS

MENU 01 ADD/REMOVE SD CARD

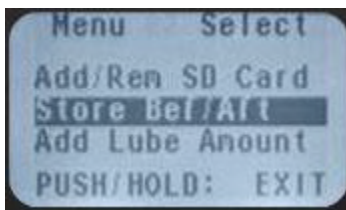
- Be sure to insert the SD card before turning the Ultraprobe on.
- The Group data will be read by the Ultraprobe on power up.
- On power down (off), all data and WAV files are stored on the SD card.
- The Add/Remove SD Card function allows users to change the card while the unit is on.
- While the power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

NOTE: 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 to review and store data.

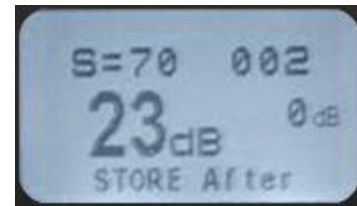
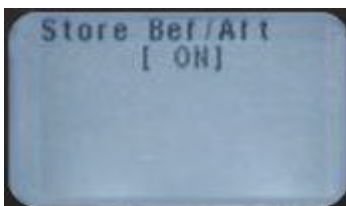


MENU 02 STORE BEFORE/AFTER. When selected, this function allows the user to store decibel readings before adding lubricant and after adding lubricant.

To set this function:



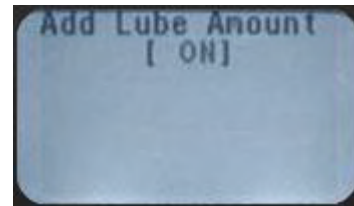
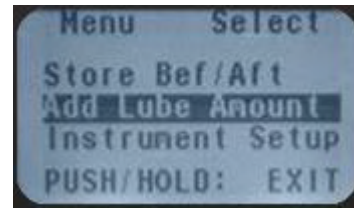
- Enter set up mode and go to Menu 02.
- Click the Sensitivity dial to select and spin it to "ON".
- Then click the Sensitivity dial to set.
- To exit press and hold the sensitivity dial.



MENU 03 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:

- Enter set up mode and go to Menu 03
- Click the Sensitivity dial to select and spin it to "ON"
- Click the Sensitivity dial to set
- To exit press and hold the Sensitivity dial

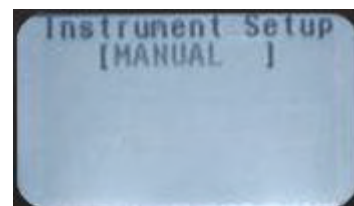


MENU 04 INSTRUMENT SET-UP. The factory default is "MANUAL". All adjustments are made by the inspector while going through the route. The "AUTOMATIC" setting is used after the initial baseline data has been uploaded to the Ultraprobe 401. In the Automatic setting, the instrument will move sequentially from one test point to the next, and set itself for the original baseline setup, which will include the Frequency and Sensitivity for that point.

FOR EXAMPLE: If the operator is testing bearings, the instrument will move from test point 1 to test point 2 and the if the baseline data was set at a sensitivity level of 43 with a frequency of 30 kHz, the instrument will automatically set for these parameters.

To change this setting:

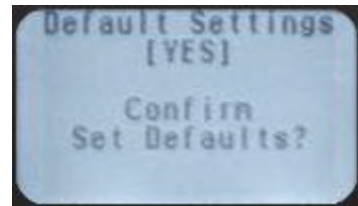
- Enter set up mode and go to Menu 04
- Click the Sensitivity dial to select. The selections are "MANUAL" and "AUTO"
- Spin to select, click to set
- To exit, press and hold the Sensitivity dial



MENU 05 DEFAULT SETTINGS

To change this setting:

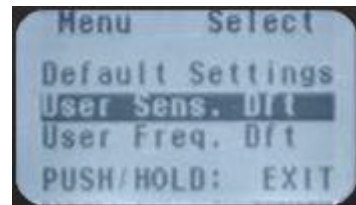
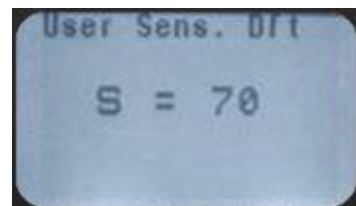
- Enter set up mode and go to Menu 05.
- Click the Sensitivity dial to select. The selections are “YES” and “NO”.
- Spin to select, click to set.
- To exit, press and hold the Sensitivity dial.



MENU 06 USER SENS.(SENSITIVITY) DFT (DEFAULT)

To change this setting:

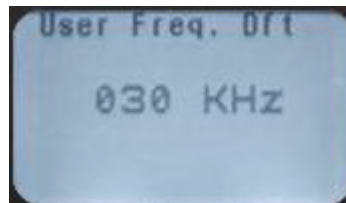
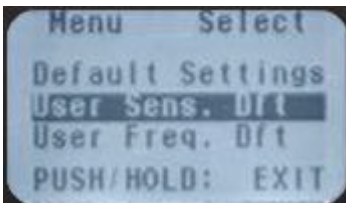
- Enter set up mode and go to Menu 06.
- Click the Sensitivity dial to select. The default value is 70.
- Spin to the desired value, click to set.
- To exit, press and hold the Sensitivity dial.



MENU 07 USER FREQ.(FREQUENCY) DFT (DEFAULT)

To change this setting:

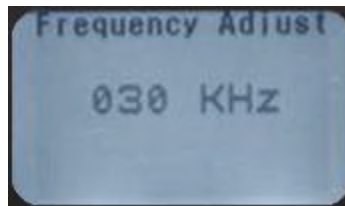
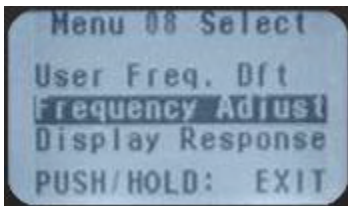
- Enter set up mode and go to Menu 07.
- Click the Sensitivity dial to select. The frequency range is 20 kHz to 100 kHz.
- Spin to the desired frequency value, click to set.
- To exit, press and hold the Sensitivity dial.



MENU 08 FREQUENCY ADJUST. This feature allows the user to change frequencies between 20 kHz and 100 kHz in one kHz intervals.

To change this setting:

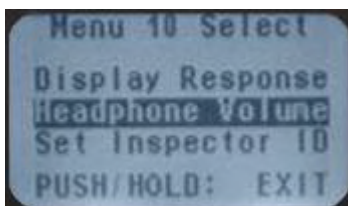
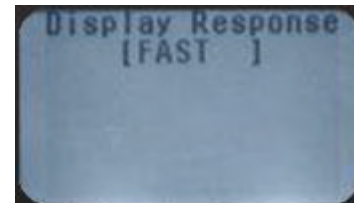
- Enter set up mode and go to Menu 08.
- Click the Sensitivity dial to select. The frequency range is 20 kHz to 100 kHz.
- Spin to the desired frequency value, click to set.
- To exit, press and hold the Sensitivity dial.



MENU 09 DISPLAY RESPONSE. This setting will affect the movement of the intensity indicator.

To change this setting:

- Enter set up mode and go to Menu 09.
- Click the Sensitivity dial to select. It may be set for SLOW, MEDIUM or FAST.
- Spin to the desired speed, click to set.
- To exit, press and hold the Sensitivity dial.

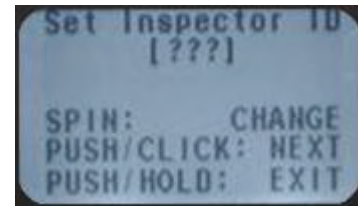


MENU 10 HEADPHONE VOLUME. This feature allows for adjustments to the sound level or volume level in the headphone. Click to enter the volume selections range from 0% to 99%. The default value is 95%.

MENU 11 SET INSPECTOR ID

To enter an ID:

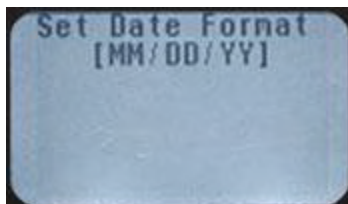
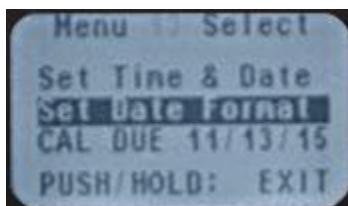
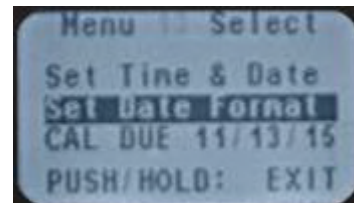
- Enter set up mode and go to Menu 11.
- Click the Sensitivity dial to select. There are three alphanumeric spaces.
- Spin to the desired number or letter, click to set. Follow on screen instructions.
- To exit, press and hold the Sensitivity dial.



MENU 12 SET TIME & DATE

To set the time and date:

- Enter set up mode and go to Menu 12.
- Click the Sensitivity dial to select.
- Use Sensitivity dial to set the time and date.
- To exit, spin to select "EXIT" which will blink and click to exit.

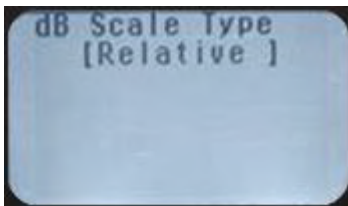
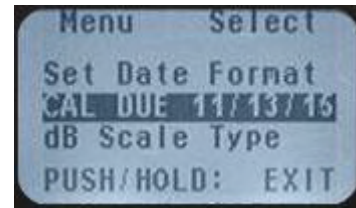


MENU 13 SET DATE FORMAT. This allows for changes to the value from month/day/year to day/month/year.

To set the date format:

- Enter set up mode and go to Menu 13.
- Click the Sensitivity dial to select.
- Use Sensitivity dial to choose date format.
- To exit, click the Sensitivity dial.

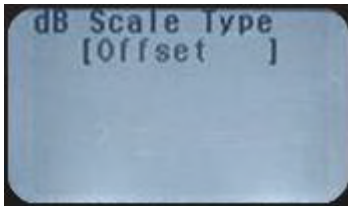
MENU 14 CAL (CALIBRATION) DUE. The due date for instrument calibration is shown on the screen.



MENU 15 DB SCALE TYPE.

The choices are “Relative” and “Offset”.

To change this setting:

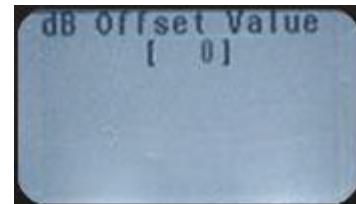


- Enter set up mode and go to Menu 15.
- Click the Sensitivity dial to select.
- Use Sensitivity dial to choose between “Relative” and “Offset”.
- To exit, click the Sensitivity dial.

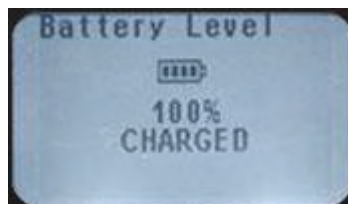
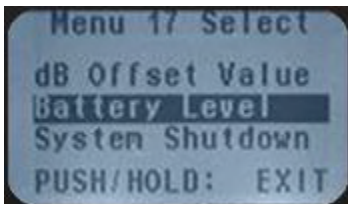
MENU 16 DB OFFSET VALUE

To set the offset value:

- Enter set up mode and go to Menu 16.
- Click the Sensitivity dial to select.
- Use Sensitivity dial. Turn left for the values -1 thru -10. And spin right for values 1 thru 40.
- To exit, click the Sensitivity dial.



MENU 17 BATTERY LEVEL. Click to see battery charge level.



MENU 18 SYSTEM SHUTDOWN. Select “System Shutdown” and click the Sensitivity dial to shut off the UP401.

OTHER FEATURES

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. To adjust the sensitivity value, the “S =” must blink on the display screen.

If it is not blinking:

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

CHANGING STORAGE RECORD NUMBER

To change the storage location before storing a reading:

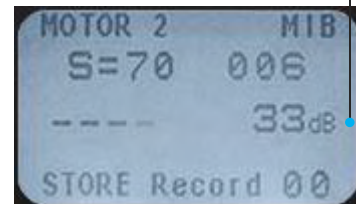
- Click around the screen using the Sensitivity dial until the record number in the upper right corner blinks.
- Spin the Sensitivity dial to the preferred record number.
- Click firmly to set; the cursor will move to the function bar.
- If Store Record is showing on the function bar press to store.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



Record number

To view data stored in a record number:

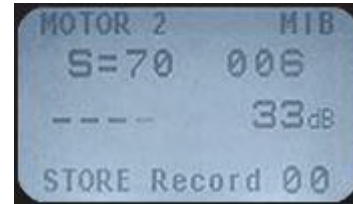
- Click to the function bar and spin until Display 1 is shown.
- Press the Sensitivity dial to select Display 1.
- Click the Sensitivity dial until the record number in the upper right corner blinks
- Spin the Sensitivity dial either left or right to view the record. The decibels will be shown in the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



dB shown here

TO RECORD THE AMOUNT OF LUBRICANT ADDED. There are two methods that allow for the user to enter the number of pumps of lubrication to be recorded. The first, is without the “Store Before and Store After” function enabled. The other is with the “Store Before and Store After” function enabled.

Using the feature Without the “Store Before and After” function enabled: be sure “Add Lube Amount” is selected in the set-up menu.



- After adjusting the sensitivity to obtain the proper DB reading, click the Sensitivity dial until the 00 is blinking in the function bar.
- Then add lubricant and record the number of strokes used by clicking the power button. Each click will equal one stroke.
- When through press and hold the Sensitivity dial to store the record.

Using the feature With the “Store Before and After” function enabled.

- To use this feature, go to set up menu and select “Add Lube Amount.”
- Store the decibel reading before adding lubricant. This will be in the store before record shown in the function bar.
- Then add lubricant and record the number of strokes used by clicking the power button. Each click will equal one stroke.
- When finished, press and hold the Sensitivity dial to store the record.



SPECIFICATIONS

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.

T: 914-592-1220 | E: info@uesystems.com | W: www.uesystems.com

