Portable Turbidity Meter

Installation and Operation Manual

Rev 9/28/2017 Part # 22100045

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DOCUMENTATION CONVENTIONS

This uses the following conventions to present information:

WARNING

An exclamation point icon indicates a **WARNING** of a situation or condition that could lead to personal injury or death. You should not proceed until you read and thoroughly understand the **WARNING** message.

CAUTION

A raised hand icon indicates **CAUTION** information that relates to a situation or condition that could lead to equipment malfunction or damage. You should not proceed until you read and thoroughly understand the **CAUTION** message.

NOTE

A note icon indicates **NOTE** information. Notes provide additional or supplementary information about an activity or concept.

General Information

In no event will the manufacturer be liable for direct, indirect, special, incidental or consequential damages resulting from any defect or omission in this manual. The manufacturer reserves the right to make changes in this manual and the products it describes at any time, without notice or obligation. Revised editions are found on the manufacturer's website.

In order to ensure your Turbidity Meter has a long service life and operates properly, adhere to the following cautions and read this manual before use.

- **Disconnect from power source when not in use.**
- **Power input source must not exceed maximum ratings.**
- **Equipment must be wired to a negative ground system.**
- **Equipment may not operate properly with excess wiring not supplied by manufacturer.**
- **Avoid spraying fluid directly at equipment.**
- **Never submerge equipment.**
- **Avoid pulling on wires to unplug equipment wiring.**
- **Avoid using equipment with obvious physical damage.**
- **To prevent equipment damage, avoid dropping it.**

WARNING

Do not operate this equipment if it has visible signs of significant physical damage other than normal wear and tear.

Notice for consumers in Europe:

This symbol indicates that this product is to be collected separately.

The following applies only to users in European countries:

- This product is designated for separate collection at an appropriate collection point. Do not dispose of as household waste.
- For more information, contact the seller or the local authorities in charge of waste management.

Section 1: System Description

Function and Theory

Geotech's Portable Turbidity Meter offers great precision, repeatability and ease of use in a low cost extremely robust portable/laboratory instrument. Data points from field sample events can be stored to memory and transferred to computer or other storage device.

Turbidity Meters provide fluid clarity insight by shining light onto a sample and measuring the amount of light scattered by suspended particles in the fluid.

The Geotech Portable Turbidity Meter has two light source models to fulfill specific customer and site requirements:

Model GTW: White Light source, compliant to US EPA method 180.1
Model GTI: Infrared light source, compliant to ISO 7027 standards

Instrument Features

- Sample chamber with lid
- Data port/ power supply (serial output, USB to Mini-B cable not included)
- Sealed battery compartment (4x AA batteries)
- IP67 Seal for extension into hazardous environments
- Digital display and navigation keypad

System Components

- Economy carry case included, optional custom foam cut case available
- Lint-free cleaning cloth
- 2 sample vials
- Primary Calibration Standards: 0.10, 20, 100, 800 NTU

Figure 1-1: Instrument Features

Section 2: System Installation & Navigation

Install the battery

1. With a small Phillips screwdriver, remove the battery cover (located on the backside of the instrument).
    - Take care to keep the small screws and washers safe when removing the battery cover.
2. Install four (4) AA alkaline or nickel metal hydride (NiMH) batteries.
    - Make sure that batteries are installed in the correct orientation.
3. Replace the battery cover.
    - For optimal seal, we recommend using a torque screwdriver set to 4N-m.

Figure 2-1: Replacing the batteries

Sample Vial Handling

Handle calibration and sample vials by caps only. Any scratches on the vials will compromise accurate turbidity readings.

When placing the vials into the instrument, ensure that the white line on the sample vial is aligned with the black arrow on the bottom edge of the instrument's sample chamber.

The sample vials must be very clean while calibrating or doing field readings; no debris or fingerprints should be visible on the glass. Use a soft cleaning cloth to ensure clarity before each measurement. Do no store samples and vial in extreme temperatures or direct sunlight.

Figure 2-2: Sample chamber

User Interface

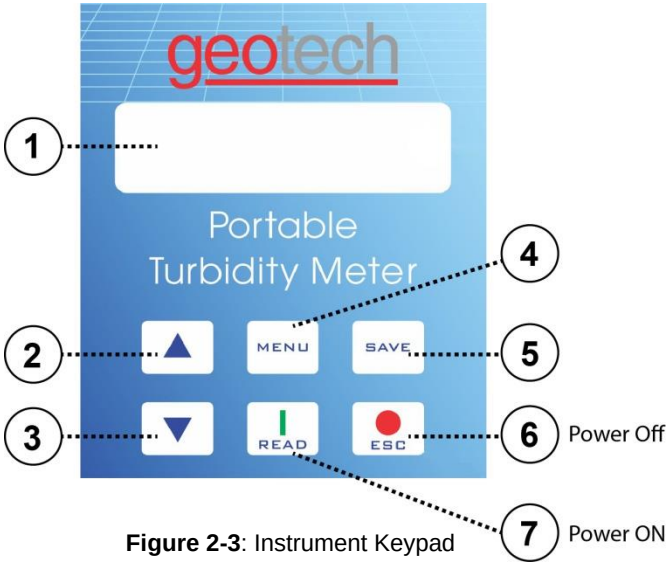


Figure 2-3: Instrument Keypad

1. **DISPLAY**
   Displays readings, diagnostics, and operational data.

2. **UP ARROW (▲)**
   Scroll through menus, enter numbers and letters

3. **DOWN ARROW (▼)**
   Scroll through menus, enter numbers and letters

4. **MENU**
   Enters into main menu function, selects options to configure the instrument, select analysis, and moves cursor to the right.

5. **SAVE**
   Store Selections and data, saves the result to be USB transferred and selects the parameters.

6. **ESC/OFF**
   Powers off the instrument (hold for 3 seconds), aborts operations, return to the previous screen.

7. **READ/ON**
   Powers on the instrument (hold for 3 seconds), confirms options, initiates sample reading, moves cursor to the left.

Section 3: System Operation

3.1 Quick Start Guide

To turn ON unit: press and hold the **READ** button for 3 seconds.

To turn OFF unit: press and hold the **ESC** button for 3 seconds.

Figure 3-1: Read (ON/Enter) ESC (OFF/Back)

Basic Operation

1. Turn instrument on by pressing **READ** for 3 seconds.
    a. Once through the welcome screens, the unit will automatically begin reading a sample.
    b. See *Section 3.2.2: Calibrate* if Calibration is required.

2. Rinse the inside of each sample vial three times with the sample to be tested.

3. Completely fill sample vial with sample, then dry and clean the outside of vial.
    - Handle vial by the cap.

4. Align white mark on vial with arrow on bottom of sample chamber.
    - See “Sample Vial Handling” in *Section 2: System Installation & Navigation* for details.

5. Close the sample chamber cap.

6. Press **READ** button again to take sample, NTU reading will appear after status bar is complete.

7. Press **SAVE** button to mark reading, “M” will flash for 3 seconds in upper left corner of display.

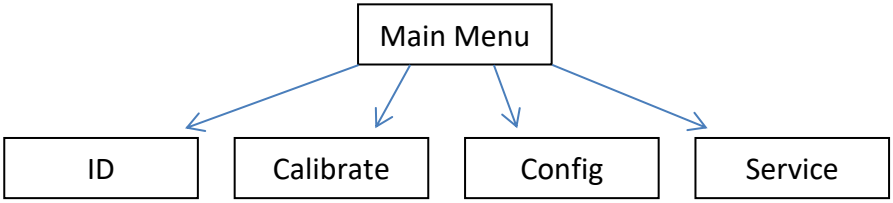
Figure 3-1: Basic Operation

3.2 Menu Navigation

The Geotech Portable Turbidity Meter has several configuration capabilities. The menu structure is easy and simple to operate, please follow the steps below to configure the unit according to your needs.

To Enter Main Menu: With instrument turned on, press **MENU** key for 3 seconds to enter the Menu Function. You will see the following screen:

Using ▲ or ▼ the user can navigate between the main menu functions. When you reach the desired menu or function press **READ** to enter, or **ESC** to go back to the previous screen.



The four main sub menus are listed below:

- ID - Access the user identification function
- Calibrate - Access the calibration functions
- Config - Access the configuration functions
- Service - Access the service functions (only for certified technicians)

The fifth menu item is “Back” – when selected will navigate to the ready-to-sample screen.

Please reference the following pages for an explanation of instrument configuration and menu navigation. See section *3.4: Menu Structure* for an overview of the complete menu structure.

3.2.1 ID (Identification)

From the main menu, use the ▲ or ▼ keys select the ID function, then press **READ** to enter that submenu.

Sample

Use the ▲ or ▼ keys to set sample number from 0-99. Use the **READ** or **SAVE** button to set the sample number and exit to the ID menu.

User

Use the ▲ or ▼ keys to set user number from 0-99. Use the **READ** or **SAVE** button to set the user number and exit to the ID menu.

3.2.2 Calibrate

From the main menu, use the ▲ or ▼ keys select the Calibrate function, then press **READ** to enter that submenu.

The Standard vials must be thoroughly cleaned before each measurement, using a lint-free cloth.

Guided Cal.

The complete calibration procedure, as outlined below, should be performed by the user according to required quality and maintenance programs.

1. Gather the four (4) calibration sample vials with formula standards of <0.10 (i.e. 0.02), 20.0, 100, 800 NTU (or stabilized primary standards in the same concentrations).
    - Ensure each vial is cleaned with a soft cloth.

2. Hold **MENU** button for 3 seconds until the main menu is displayed.

3. Scroll through the menu using the ▲ or ▼ keys until “Calibrate” is displayed.

4. Press the **READ** button to enter into the calibration menu.

5. Select “Guided Cal” and follow the scrolling prompts on the screen.
    - Before placing each vial into the sample chamber, gently invert the vial to ensure a homogeneous mix.

6. Once done calibrating to the four standards, the instrument will return to the calibration menu.

7. Press the **ESC** key twice to navigate to the ready-to-sample screen.

Free Cal.

Free Calibration allows for a single calibration point. For many users, this single point calibration will be sufficient for routine work.

1. Follow steps 1-3 from “Guided Cal” above.

2. Select “Free Cal”

3. On the “Cal. Auto” screen, there will be a value displayed from the previous calibration. Place one of the calibration standards into the sample chamber.

4. Press READ button and wait for result.

5. If necessary use ▲ or ▼ keys to change the displayed value for this standard to match its label, press and hold **SAVE** for 3 seconds.
   - "Saving" will be displayed.

6. After the value is saved, the display returns to the "Calibrate" menu.

7. Recalibrate against the same standard for better accuracy, or perform the “Guided Cal” routine.

NOTE 1: If an error message displays, check the standards and repeat the previous steps.

NOTE 2: After the calibration, perform standard readings for verification, and if needed repeat the calibration procedure.

3.2.3 Config (Configuration)

From the main menu, use the ▲ or ▼ keys select the Config function, then press **READ** to enter that submenu.

Time/Date

When inside this configuration you can change ***Time*** and ***Date***.

Use **MENU/READ** to move the cursor right/left and ▲ or ▼ keys to adjust the numbers as desired. Press and hold **SAVE** for 3 seconds to store the data, or **ESC** to return to the previous menu without saving any changes.

Display

When inside this configuration you can set and change Contrast, Backlight Time and Backlight Brightness (Time and Contrast only on instruments with Backlight optional installed), use ▲ or ▼ to select between the options and **READ** to enter it or **ESC** to go back to the previous menu.

Contrast

Using ▲ or ▼, you can change the contrast to the desired level: 00-30. When done, press and hold **SAVE** for 3 seconds to store the data and **ESC** to return to the previous menu.

Backlight Time

From 0 up to 60 minutes of backlight on.

Using ▲ or ▼ change the time to the desired backlight time, when done, press and hold **SAVE** for 3 seconds to store the data and **ESC** to return to the previous menu.

Backlight Level

From 0 up to 100 (intensity level).

Using ▲ or ▼ change the level to the desired, when done, press and hold **SAVE** for 3 seconds to store the data and **ESC** to return to the previous menu.

Partial Res.

Using ▲ or ▼ to choose Yes or No.

Big Number

Using ▲ or ▼ to choose Yes or No to show the large number displayed on the Auto screen.

Instrument

When inside this configuration you can set Auto off, Readings, Color compensation, curves, fast settling, Sampling, ID, Calibration interval, personalization, patrimony, use ▲

or ▼ to select between the options and **READ** to enter it or **ESC** to go back to the previous menu.

Auto off

The Auto off function shall be activated to save the batteries; it can be configured to turn the unit off after 0 to 60 minutes of inactivity.

Using ▲ or ▼ change the time to the desired level, when done, press and hold **SAVE** for 3 seconds to store the data and **ESC** to return to the previous menu.

NOTE: When the time is in 0 minutes the auto off will not be operational.

Auto Reading

The Auto reading function can be activated from 1 to 250 seconds; this will set the time between readings.

NOTE: If you configure the Auto reading for 5 seconds the unit will make readings every 5 seconds until it is turned off.

Using ▲ or ▼ change the desired time between readings, press and hold **SAVE** for 3 seconds to store the data and **ESC** to return to the previous menu.

Color Compensation

The instrument can compensate for the color of the sample for a more accurate reading.

A password is required to access this feature. Default password is **9999.** Input password and hold **SAVE** for 3 seconds to proceed.

Using ▲ or ▼ select Yes or No, when done, press and hold **SAVE** for 3 seconds to store the data and **ESC** to return to the previous menu.

NOTE: When activated (Yes selected) “C” will appear in the upper right corner of the display in the reading mode screen.

Test Curves

You can define which curves will appear in the curve selection menu (when you press and release the Menu key).

Press **ESC** to remove the * icon from the curves you don´t want and **READ** to put the * icon in the ones you want.

Press and hold **SAVE** for 3 seconds to store the data and **ESC** to return to the previous menu.

Measure Mode/ Fast Settling

When selected, instrument will take a snapshot of the sample and display the immediate reading before particles settle in the vial (for high solids samples).

Using ▲ or ▼ select yes or no, when done, press and hold **SAVE** for 3 seconds to store the data and **ESC** to return to the previous menu.

Sample

This function can be used to set the number of readings the unit will take to calculate the average and present it as a measurement in the display. Number of samples ranges from 8-100.

1. User ID

Here you can set up user names/passwords and when they shall be requested by the unit.

Edit

To create users and its passwords:

- Choose the user number between 00 and 50 , press **READ**
- Choose a name for this user using ▲ to scroll faster to letters , ▼ to scroll faster to numbers (both can be used to go up or down) and **MENU/READ** (send the cursor to the right/left), press and hold **SAVE** for 3 seconds to store the data. Name can be a maximum of thirteen (13) characters.
- You will see "PIN:" on the Display, use ▲ to scroll faster to letters , ▼ to scroll faster to numbers (both can be used to go up or down) and **MENU/READ** (send the cursor to the right/left), press and hold **SAVE** for 3 seconds to store the data. Pin must be four (4) characters.
- Press and Hold **ESC for 3 seconds** to return to the previous menu.

Request

To define when the user ID and password will be required:

- Choose between the following options using ▲ or ▼, when done, press and hold **SAVE** for 3 seconds to store the data and **ESC** to return to the previous menu.

Always	– ID and password will be request at every measurement.
On Start	– ID and password will be request at Instrument Start Up.
MEMO	– ID and password will be request when **SAVE** is pressed.
Previous	**–** ID and password will not be requested, the previous user informed will be assigned for all operations.
No	– ID and password will not be requested.

2. Sample ID

Here you can set up sample names /passwords and when they shall be requested by the unit.

Edit

To create sample names and their passwords:

- Choose the user number between 00 and 50, press **READ**
- Choose a name for this sample using ▲ to scroll faster to letters , ▼ to scroll faster to numbers (both can be used to go up or down) and **MENU/READ** (send the cursor to the right/left), press and hold **SAVE** for 3 seconds to store the data.
- Press and Hold **ESC for 3 seconds** to return to the previous menu.

Request

To define when the sample name will be required:

- Choose between the following options using ▲ or ▼, when done, press and hold **SAVE** for 3 seconds to store the data and **ESC** to return to the previous menu.

Always	–Sample name will be request at every measurement.
On Start	–Sample name will be request at Instrument Start Up.
MEMO	–Sample name will be request when **SAVE** is pressed.
Previous	–Sample name will not be requested, the previous user informed will be assigned for all operations.
No	–Sample name will not be request.

Schedule Cal.

Access this function to set up the time (Days/hours) before calibration is requested.

A password is required to access this feature. Default password is **9999.** Input password and hold **SAVE** for 3 seconds to proceed.

F.Scale

- Choose the number of days and hours before the calibration warning graph will appear on the display using ▲ or ▼ and **MENU/READ** (send the cursor to the right/left), press and hold **SAVE** for 3 seconds to store the data.

NOTE: When the calibration schedule is programmed, a graph will be displayed in the upper right corner during measurements, when the calibration date arrives, a bar will appear in the graph and a Calibration warning will be displayed.

Customize

Use ▲ or ▼ and **MENU/READ** (send the cursor to the right/left) to set an ID for the unit, press and hold **SAVE** for 3 seconds to store the data. ID must be four (4) characters.

Tag Number

Use ▲ or ▼ and **MENU/READ** (send the cursor to the right/left) to set an ID number for the unit, press and hold **SAVE** for 3 seconds to store the data. ID must be four (4) characters.

Language

Use ▲ or ▼ to select the desired language from the list below, press and hold **SAVE** for 3 seconds to store the data.

- US – English
- ES – Spanish
- BR – Portuguese

Communication

Use ▲ or ▼ to select between Eco Result or Log Transmit and **READ** to enter it or **ESC** to go back to the previous menu.

Eco Result

In this mode, the measurement displayed is sent to the USB port. You can select to send all measurements only part of them.

Using ▲ or ▼ select Auto, Manual and Off, when done, press and hold **SAVE** for 3 seconds to store the data and **ESC** to return to the previous menu.

- Auto – Sends all measurements to the USB (when they are performed)
- Manual – Sends measurements that are selected (**SAVE** pressed during on measurement mode)
- Off – No measurement will be sent to the USB

Log Transmit

Here you can select 4 ways to send the instrument measurement log

Using ▲ or ▼ select between, New Mark, All Mark, New, All, Press and hold **SAVE** for 3 seconds to store the data and **ESC** to return to the previous menu.

Auto - Sends all measurements to the USB (when they are performed)

Manual - Sends measurements that are selected (**SAVE** pressed during on measurement mode)

Off - No measurement will be sent to the USB

NOTE: When the time is in 0 minutes the instrument will not be shut off.

Serial Baud

Sets the data rate in bits for data transmission.

Options include: 57600, 38400, 19200, and 9600. Default/suggested configuration is 19200bits/sec. Press and hold **SAVE** for 3 seconds to store the data and **ESC** to return to the previous menu.

Header

Select Yes or No to display header. Press and hold **SAVE** for 3 seconds to store the data and **ESC** to return to the previous menu.

CSV Separator

Determines character to be placed in between spaces. Select a symbol then press and hold **SAVE** for 3 seconds to store the data and **ESC** to return to the previous menu.

User Test

The instrument allows users to calibrate a user curve.

NOTE: When user curve is calibrated, the instrument performance might change due to standard and procedures adopted, factory calibrated curve is made with 100% traceable standards and reference materials in controlled environment, use it in order to have full confidence in instrument performance.

Security/Password

Here you can set up the security level and password for the Calibration, configuration and service functions.

The Factory pre-saved password is 9999, if this is required during configuration or operation use ▲ to scroll faster to letters , ▼ to scroll faster to numbers (both can be used to go up or down) and **MENU**/**READ** (send the cursor to the right/left), press and hold **SAVE** for 3 seconds to store the data.

ID

Here you will assign a security level and password to access all the ID functions.

Using ▲ or ▼ select the desired security level, when done, press and hold **SAVE** for 3 seconds to store the data.

Sec. Level

Choose the user number between 0 and 5, press and hold **SAVE** for 3 seconds to store the data.

Password

Using ▲ to scroll faster to letters, ▼ to scroll faster to numbers (both can be used to go up or down) and **MENU**/**READ** (send the cursor to the right/left), press

and hold **SAVE** for 3 seconds to store the data. Password must be four (4) characters.

Calibration
Here you will assign a security level and password to access all the calibration functions.

Using ▲ or ▼ select the desired security level, when done, press and hold **SAVE** for 3 seconds to store the data.

Sec. Level
Choose the user number between 0 and 5, press and hold **SAVE** for 3 seconds to store the data.

Password
Using ▲ to scroll faster to letters, ▼ to scroll faster to numbers (both can be used to go up or down) and **MENU**/**READ** (send the cursor to the right/left), press and hold **SAVE** for 3 seconds to store the data.

Config.
Here you will assign a security level and password to access all the Configurable functions.

Using ▲ or ▼ select the desired security level, when done, press and hold **SAVE** for 3 seconds to store the data.

Sec. Level
Choose the user number between 0 and 5, press and hold **SAVE** for 3 seconds to store the data.

Password
Using ▲ to scroll faster to letters, ▼ to scroll faster to numbers (both can be used to go up or down) and **MENU**/**READ** (send the cursor to the right/left), press and hold **SAVE** for 3 seconds to store the data.

Service
Here you will assign a security level and password to access all the service functions.

Using ▲ or ▼ select the desired security level, when done, press and hold **SAVE** for 3 seconds to store the data.

Sec. Level
Choose the user number between 0 and 5, press and hold **SAVE** for 3 seconds to store the data.

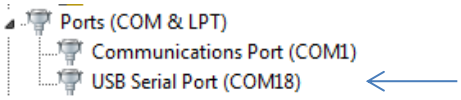
Password
Using ▲ to scroll faster to letters, ▼ to scroll faster to numbers (both can be used to go up or down) and **MENU**/**READ** (send the cursor to the right/left), press and hold **SAVE** for 3 seconds to store the data.

3.3 USB Connection

1. Plug the unit into the computer; wait for device driver to download. Device connection is successful if an additional COM port is recognized in the Device Manager.

2. Identify a communication port for the connection, look in the computer's Device Manager (example: COM2, COM18).

If unsure of which communication port, disconnect and then reconnect the Turbidity Meter while Device Manager is open and notice which new communication/USB serial port opens, look under "Ports (COM & LPT)".



3. Open a serial terminal connection to access the saved data.

Serial terminal programs are available to download from the internet.
For example, "PuTTY" or "TeraTerm" are two serial terminal programs which are quick and free to download, and simple to use.

4. Configure the serial terminal interface as follows:

Parameter	**Value**
Speed	19200 bits/sec (baud rate)
Data bits	8
Parity	None
Stop Bits	1
Flow Control	None

5. To transmit the Data use the menu structure diagram (*see Section 3.4*) to navigate to Service > Datalog > Log Transmit.

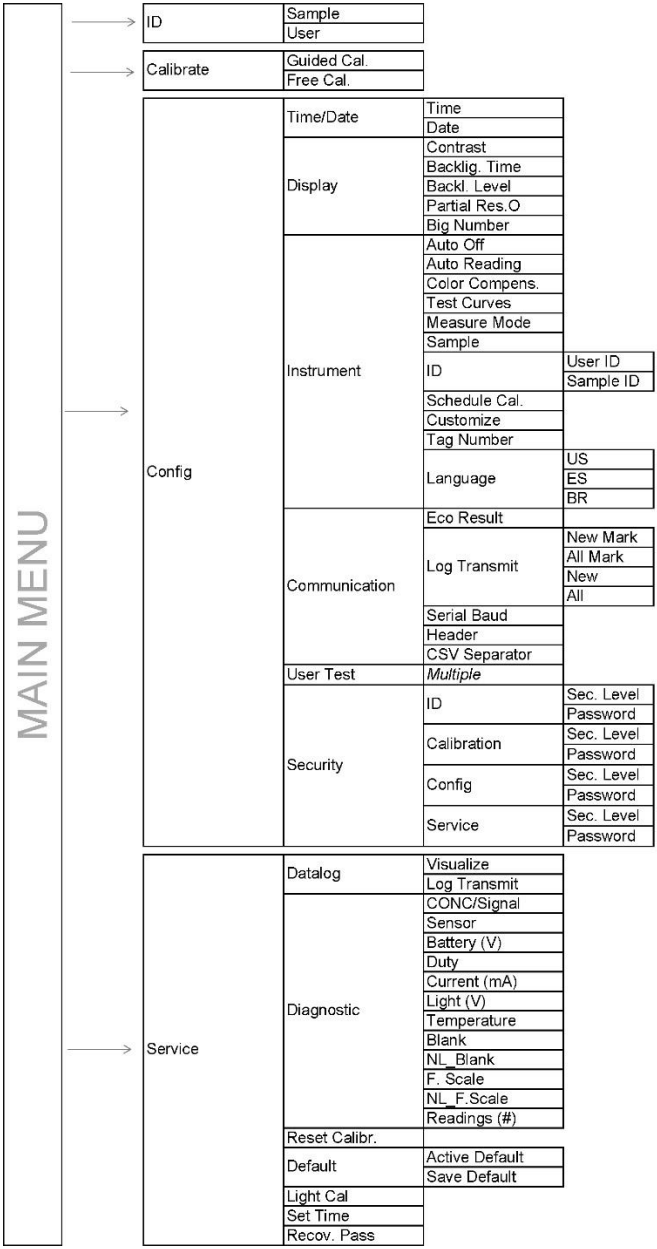
The display will read, "Wait…" and the serial terminal on the computer will begin the data log transfer. The data output could be copied and pasted into a data processing program, such as MS Excel or Word (comma delineated import).

Note: Some variables will appear in the data collected,

"M": Marked
"D": Point where the data has already being transmitted
"E": Clock not adjusted in last transmission

3.4 Menu Structure

Use the "**READ**" button to enter into a sub menu, use the "**ESC**" button to exit a sub menu.



Section 4: System Maintenance

The Geotech Portable Turbidity Meter is designed to be a low-maintenance lab instrument that can be used in the field.

General cleaning guidelines:

- Use a soft cloth with mild soap and warm water to clean the unit.
- Clean and dry the sample chamber to ensure no water droplets accumulate on the lens, as this can affect the accuracy of turbidity readings.

Per each use:

- Keep unit clean and free of debris when traveling - build up on sample chamber lenses could permanently damage the instrument
- Calibrate before each use to ensure good data

Seasonal use:

- Keep unit clean and free of debris when storing - build up on lenses could permanently damage the instrument
- Remove batteries when storing long term
- Ensure a complete calibration is conducted when bringing unit out of storage

Calibration Solutions:

- Avoid exposing calibration standards to extreme temperatures. Do not store below the freezing point, or above 122 °F (55°C)

Section 5: System Troubleshooting

Problem: Unit will not turn on.

Solution:

- No power to unit:
    - Check that batteries are installed and in the correct orientation (+/- polarity)

Problem: Cannot get accurate readings on control samples.

Solution:

- Recalibrate unit
- Clean lenses inside sample chamber to ensure a clear read
- Clean outside of bottles
- Check the expiration date on the calibration standards. Expired standards will result in an inaccurate reading.

If these troubleshooting guidelines have not resolved the problem, contact Geotech Environmental Equipment at 1-800-833-7958.

Section 6: System Specifications

Measurement Method	Nephelometric
	EPA method 180.1 (GTW)
	ISO method 7027 (GTI)
	EPA - White light Tungsten (GTW)
	ISO - 860nm LED (GTI)
Range	0 to 1000 NTU (FNU)
Accuracy	±2% of reading plus stray light
Repeatability	±1% of reading, or 0.01 NTU (FNU), whichever is greater
Resolution	0.01 NTU on lowest range
Stray Light	<0.02 NTU (FNU)
Signal Averaging	Selectable On/Off (programmable from 8 to 100 readings/ 4 to 27 seconds)
Detector	Silicon photocell
Reading Modes	Fast Settling, automatic, manual reading, EBC
Data Logger	1000 Data Sets
Download	Standard USB, no special software required
Languages	English, Spanish, Portuguese
	4 AA Alkaline batteries
	USB 5VDC/500mA
Operating Temperature	32 to 122°F (0 to 50°C)
Storage Conditions	-40 to 140°F (-40 to 60°C), instrument only
Instrument Enclosure Rating	IP67 with lid open or closed
Sample Required	0.473 oz. (14 ml)
Sample Vials	2.55 x 0.94 in. (65 x 24 mm)
Dimensions	4.48 x 7.79 x 3.26 in. (114 x 198 x 83 mm)
	1.09 lb. (496 g) without batteries
	1.28 lb. (585 g) with 4 AA alkaline batteries
Warranty	2 year

Section 7: Parts and Accessories

Part Number	Qty	Part Description
82100003	1	TURBIDITY METER,0-1000NTU,GEOTECH,CALKIT,FIELD CASE
82100005	1	TURBIDITY METER,0-1000NTU,GEOTECH,CALKIT, ECO CASE
52100003	1	CASE,FIELD,TURBIDITY
52100000	1	CAL KIT, PRIMARY, TURBIDITY,GEOTECH, .1,20,100,800NTU
*52100002	1	CAL KIT, SECONDARY, TURBIDITY GEOTECH,GEL,0-10,0-100,0-1000
22100046	.5	VIAL,TURBIDITY,4PK
22100048	1	CLOTH,LINT FREE,TURBIDITY
PPE041006	4	BATTERY, 1.5V, SIZE AA, EACH
22100045	1	MANUAL, PORTABLE TURBIDITY METER,GEOTECH
*22100049	1	CASE,ECONOMY,TURBIDITY
*52100004	1	COMM CABLE,USB,TURBIDITY

**Indicates optional accessories.*

For additional information, please call Geotech Environmental Equipment at:
1-800-833-7958

Document Revisions		
EDCF #	**Description**	**Rev/Date**
-	Release, SP	07/07/2016
Project #1496	Updated graphics, additional user instructions, StellaR, SP	06/08/2017
Project #1569	Added calibration kit part numbers, StellaR	9/28/2017

NOTES

NOTES

EC Declaration of Conformity

Manufacturer:

Geotech Environmental Equipment, Inc.
2650 E 40th Avenue
Denver, CO 80205

Declares that the following products,

Product Name: Geotech Portable Turbidity Meter

Model(s): Portable Turbidity Meter, White Light (GTW)
Portable Turbidity Meter, Infrared Light (GTI)

Year of manufacture: 2017

Conform to the principle safety objectives of 2006/95/EC Low Voltage Directive by application of the following standards:

EN 61010-1: 2010

Year of affixation of the CE Marking: 2017

Conform to the protection requirements of 2004/108/EC Electromagnetic Compatibility (EMC) by application of the following standards:

EN 61000-6-1: 2007
EN 61000-6-3: 2012
EN 61326-1: 2013

EMC conformity established 5/24/2017

Production control follows the ISO 9001:2008 regulations and includes required safety routine tests.

This declaration issued under the sole responsibility of Geotech Environmental Equipment, Inc.

Joe Leonard
Product Development

Serial number _____

DOCUMENT REVISIONS		
EDCF#	DESCRIPTION	REV/DATE
-	Release, SP	07/07/2016
Project #1496	Added Declaration of Conformity, general updates to images and menu descriptions, SB	05/26/2017
Project#1496	Updated parts list, updated menu navigation, StellaR	6/15/2017

The Warranty

For a period of two (2) years from date of first sale, product is warranted to be free from defects in materials and workmanship. Geotech agrees to repair or replace, at Geotech's option, the portion proving defective, or at our option to refund the purchase price thereof. Geotech will have no warranty obligation if the product is subjected to abnormal operating conditions, accident, abuse, misuse, unauthorized modification, alteration, repair, or replacement of wear parts. User assumes all other risk, if any, including the risk of injury, loss, or damage, direct or consequential, arising out of the use, misuse, or inability to use this product. User agrees to use, maintain and install product in accordance with recommendations and instructions. User is responsible for transportation charges connected to the repair or replacement of product under this warranty.

Equipment Return Policy

A Return Material Authorization number (RMA #) is required prior to return of any equipment to our facilities, please call our 800 number for appropriate location. An RMA # will be issued upon receipt of your request to return equipment, which should include reasons for the return. Your return shipment to us must have this RMA # clearly marked on the outside of the package. Proof of date of purchase is required for processing of all warranty requests.

This policy applies to both equipment sales and repair orders.

FOR A RETURN MATERIAL AUTHORIZATION, PLEASE CALL OUR SERVICE DEPARTMENT AT 1-800-833-7958.

Model Number: _____

Serial Number: _____

Date of Purchase: _____

Equipment Decontamination

Prior to return, all equipment must be thoroughly cleaned and decontaminated. Please make note on RMA form, the use of equipment, contaminants equipment was exposed to, and decontamination solutions/methods used. Geotech reserves the right to refuse any equipment not properly decontaminated. Geotech may also choose to decontaminate the equipment for a fee, which will be applied to the repair order invoice.

Geotech Environmental Equipment, Inc.
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