150-10-8

Digital Physician Scale Floor-Level
Software Version 11599

Technical Manual

RICE LAKE®
WEIGHING SYSTEMS

July 31, 2026

PN 235319 Rev A

© Rice Lake Weighing Systems. All rights reserved.

Rice Lake Weighing Systems® is a registered trademark of
Rice Lake Weighing Systems.
All other brand or product names within this publication are trademarks or
registered trademarks of their respective companies.

All information contained within this publication is, to the best of our knowledge, complete and accurate at the time of publication. Rice Lake Weighing Systems reserves the right to make changes to the technology, features, specifications and design of the equipment without notice.

The most current version of this publication, software, firmware and all other product updates can be found on our website:

www.ricelake.com

Revision History

This section tracks and describes the current and previous manual revisions for awareness of major updates and when the updates took place.

Revision	Date	Description
A	July 31, 2026	Established a revision history; software version 11599

Table i. Revision Letter History

Technical training seminars are available through Rice Lake Weighing Systems. Course descriptions and dates can be viewed at ***www.ricelake.com/training*** *or obtained by calling 715-234-9171 and asking for the training department.*

Contents

1.0 Introduction 5
- 1.1 Safety 5
- 1.2 Disposal 6
- 1.3 FCC Compliance 6

2.0 Assembly 7
- 2.1 Unpacking 7
  - 2.1.1 Repackaging 7
- 2.2 Scale Assembly 7
- 2.3 Inserting Batteries 8
- 2.4 AC Power Connections 9
- 2.5 Leveling the Scale 9

3.0 Operation 10
- 3.1 Weighing 11
- 3.2 Hold/Release Function 11
- 3.3 Using the Body Mass Index (BMI) Function 11
- 3.4 Troubleshooting 12

4.0 Configuration 13
- 4.1 General Navigation 13
  - 4.1.1 Change Parameters 13
  - 4.1.2 Enter Numbers 13
  - 4.1.3 Save and Return to Main Menu 13
- 4.2 Configuration Mode 14
- 4.3 Programming Mode Menu 15
- 4.4 Default Menu 19
- 4.5 Scale Calibration 19
- 4.6 Test Menu 20

5.0 Communication 21
- 5.1 Push-button Keypad Print 21
- 5.2 USB Connection 22

6.0 Maintenance 23
- 6.1 Basic Maintenance 23
- 6.2 Cleaning 23

7.0 Specifications 24

Rice Lake continually offers web-based video training on a growing selection of product-related topics at no cost. Visit ***www.ricelake.com/webinars***

1.0 Introduction

The 150-10-8 Digital Physician Scale is a professional tool providing precision weighing information. The design patented scale is multi-functional; weight is automatically displayed; after height input into scale, the patient's BMI is displayed. The large digital display makes it easy to read the results.

The 150-10-8 scale is mainly used in hospitals, doctor's clinics and nursing home facilities to establish weight, height and BMI (Body Mass Index). The scale is designed to adhere to the highest standards of measurement and compliance.

Communication is through serial and/or USB cable and the transmission can be to a printer or PC with a click of a button. A simple and easy protocol allows a trouble-free interface to EMR data base systems.

Manuals are available from Rice Lake Weighing Systems at www.ricelake.com/manuals

Warranty information is available at www.ricelake.com/warranties

1.1 Safety

Safety Definitions:

DANGER: Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. Includes hazards that are exposed when guards are removed.

WARNING: Indicates a potentially hazardous situation that, if not avoided, could result in serious injury or death. Includes hazards that are exposed when guards are removed.

CAUTION: Indicates a potentially hazardous situation that, if not avoided, could result in minor or moderate injury.

IMPORTANT: Indicates information about procedures that, if not observed, could result in damage to equipment or corruption to and loss of data.

General Safety

Do not operate or work on this equipment unless this manual has been read and all instructions are understood. Failure to follow the instructions or heed the warnings could result in injury or death. Contact any Rice Lake Weighing Systems dealer for replacement manuals.

WARNING

Failure to heed could result in serious injury or death.

Ensure every individual who operates or works with this unit has read and understands all safety information.

Do not transport the scale while someone is on the scale.

Do not allow minors (children) or inexperienced persons to operate this scale.

Do not use in the presence of flammable materials.

Do not use this product if any of the components are loose or cracked.

Do not use near water.

Do not use the scale on slippery surfaces, such as a wet floor.

Do not use this scale when a person's body or feet are wet, such as after taking a bath.

Do not place fingers into slots or possible pinch points.

To avoid cross contamination, the scale should be cleaned regularly.

Prior to cleaning, make sure the scale is disconnected from the power source.

People with disabilities, or who are physically frail, should always be assisted by another person when using this scale.

© Rice Lake Weighing Systems ● All Rights Reserved

IMPORTANT

Do not drop the scale or subject it to violent shocks.

Do not jump on the scale.

For accurate weighing, the scale must be placed on a flat, stable surface.

Operating at voltages and frequencies other than specified could damage the equipment.

Avoid contact with excessive moisture.

Do not make alterations or modifications to the scale.

Rice Lake Weighing Systems offers optional AC adapters; utilizing an adapter not supplied by Rice Lake Weighing Systems voids all warranties and approvals.

Weight exceeding the maximum capacity may damage the scale.

1.2 Disposal

Product Disposal

The product must be brought to appropriate separate waste collection centers at the end of its life cycle.

Proper separate collection to recycle the product helps prevent possible negative effects on the environment and to health, and promotes the recycling of the materials. Users who dispose of the product illegally shall face administrative sanctions as provided by law.

Battery Disposal

Dispose of batteries at appropriate waste collection centers at the end of their life cycle in accordance with local laws and regulations. Batteries and rechargeable batteries may contain harmful substances that should not be disposed of in household waste. Batteries may contain harmful substances including but not limited to: cadmium (Cd), lithium (Li), mercury (Hg) or lead (Pb). Users who dispose of batteries illegally shall face administrative sanctions as provided by law.

WARNING: Risk of fire and explosion. Do not burn, crush, disassemble or short-circuit lithium batteries.

1.3 FCC Compliance

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Cet appareil est conforme à la partie 15 du règlement de la FCC. Son utilisation est soumise aux deux conditions suivantes : (1) cet appareil ne doit pas provoquer d'interférences nuisibles, et (2) cet appareil doit accepter toute interférence reçue, y compris les interférences susceptibles de provoquer un fonctionnement indésirable.

2.0 Assembly

2.1 Unpacking

Place the carton on a hard, level surface for unpacking, preferably in the area where it will be used. If parts were damaged in shipment, notify Rice Lake Weighing Systems and the shipper immediately.

Parts contained in the shipping box include:

- Scale base and head
- This manual
- White box labeled ***Parts Inside*** which contains the following:
  - Pan head screws (4)
  - AA batteries (6)

2.1.1 Repackaging

All component parts have been wrapped in plastic. Retain the packaging for use in the event that the scale must be returned or moved. It must be properly packed with sufficient packing materials. Whenever possible, use the original carton when shipping the scale back.

IMPORTANT: Damage caused by improper packaging is not covered by the warranty.

2.2 Scale Assembly

Use the following steps to set up the scale.

NOTE: A Phillips head screwdriver will be needed for installation.

1. Place the scale on a hard, level surface for the most accurate weighments in an area where the weighing process will occur.
2. Carefully lift the scale out of the packaging material; lifting by the scale base.

IMPORTANT: The scale base and head are connected by a cable and requires great care when removing from the box so that the cabling does not get damaged.

Figure 2-1. Disassembled Scale

© Rice Lake Weighing Systems ● All Rights Reserved

3. Attach the scale head to the base as shown in Figure 2-2 making sure not to pinch the cable.

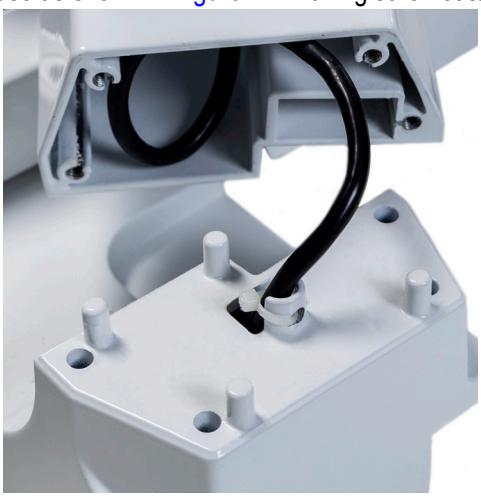


Figure 2-2. Attach Scale Head to Scale Base

4. Using the enclosed screws, attach the head to the scale base as shown in Figure 2-3.

Figure 2-3. Attach With Screws

2.3 Inserting Batteries

The six AA batteries that come with the scale offer an average of 25 hours of continuous use.

To install the batteries:

1. Turn thumbscrew counterclockwise then remove battery cover.
2. Insert batteries into the battery chamber.

Figure 2-4. Batteries in Battery Chamber

3. Put the cover in place and turn the thumbscrew clockwise to secure.

2.4 AC Power Connections

Use the optional 120 VAC adapter or 230 VAC adapter when power is available. The optional AC power adapter plugs into the back of the indicator as shown below. Rice Lake Weighing Systems offers optional AC adapters, utilizing an adapter not supplied by Rice Lake Weighing Systems voids all warranties.

Figure 2-5. Power Connection

2.5 Leveling the Scale

Use bubble level to check for level and adjust feet as needed. On a flat surface, adjust the scale feet until the bubble indicates that the scale is level.

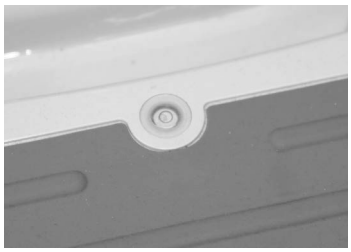


Figure 2-6. Bubble Indicates Scale Is Level

© Rice Lake Weighing Systems ● All Rights Reserved

3.0 Operation

This section describes the front panel and includes procedures for operation of the scale.

Figure 3-1. Front Panel Keypad

Key Descriptions

The unit has nine front panel keys. Key functions are described in the table below.

IMPORTANT: The front panel keys are very sensitive, so only a gentle press is required.

Key	Name	Function
On/Off	On/Off	Powers the scale on or off.
Print LB/KG	Print LB/KG	Sends data out from the RS-232 port. Allows to toggle between kilograms and pounds providing that it is enabled in ***Configuration*** mode. Cannot toggle while in the ***BMI*** mode.
Zero	Zero	Only functions if the current weight is stable and less than 2% of the capacity of the scale. Anything over 2% requires a recalibration.
Hold Release	Hold Release	Displays most current weight value on the display and holds that value when the patient is off the scale. A second press releases the weight value. Not active while in ***BMI*** mode.
BMI	BMI	Pressing the **BMI** key enables access to the BMI (Body Mass Index) mode (defaults when scale is turned on). The patient is gets on the scale, weight stabilizes and press the **BMI** key. The display then asks for the patient height to calculate out the patient BMI.
CLEAR	CLEAR	When using the BMI function, the display will be looking for a height entry. Pressing **Clear** changes this entry back to 190.0 cm (default) or 5 ft, 7.5 in. Once BMI is displayed, pressing the **Clear** key exits BMI.
ENTER	ENTER	Used to accept height in ***BMI*** mode; accepts the value of the parameter last entered and moves to the next stage. Pressing and holding Enter during startup will display ID. This is the first setup on entering into configuration mode.
▲ ▼	Up/Down Arrows	Adjusts the value of the flashing digit/number. Adjusts height input (0.5 in/0.5 cm) while in ***BMI*** mode.

Table 3-1. Scale Key Functions

3.1 Weighing

Use the following steps to weigh a patient.

1. Press to turn on the scale. ***0.0*** displays along with ***ZERO*** on the upper display.
2. Have the patient step on the scale. The patient's weight is displayed, the ***LOCK*** annunciator is on and the indicator beeps to indicate the end of the weighing process.
3. Press to change the display from lb to kg and vice-versa.
4. Press and hold until ***OFF*** displays to turn off the scale.

3.2 Hold/Release Function

Use the following steps to use the Hold/Release function:

1. Press to turn on the scale. ***0.0*** displays along with ***ZERO*** on the upper display.
2. Have the patient step on the scale.
3. Press once the patient's weight stabilizes. The patient's weight and the ***HOLD*** and ***LOCK*** annunciators remain on the display when the patient is off the scale.
4. Press again to return the scale to zero.

NOTE: Pressing prior to the patient getting on the scale will also hold the weight display.

3.3 Using the Body Mass Index (BMI) Function

Use the following steps in determining the BMI.

LB Mode

1. Ensure the scale is at zero.
2. Have the patient step onto the scale.
3. Have the person step on the scale to obtain a weight.The ***LOCK*** annunciator appears on the display.
4. Press BMI. The ***BMI*** and ***FT/IN*** annunciators light and a default height value of 5 feet and 7.5 inches (5-07.5) flashes.
5. Use to adjust the height value, and press ENTER.
6. The BMI value and ***BMI*** annunciator are shown on the display. Press CLEAR to return to weighing mode and the BMI function will be turned off.

KG Mode

1. Ensure that the scale is at zero.
2. Have the patient step on the scale to obtain a weight. The ***LOCK*** annunciator appears on the display.
3. Press BMI. The ***BMI*** and ***CM*** annunciators appear and a default height value of 170.0 cm (170.0) flashes.
4. Use to adjust the height value.
5. Press ENTER.
6. The BMI value and ***BMI*** annunciator appear on the display. Press CLEAR to return to weighing mode and the BMI function.

© Rice Lake Weighing Systems ● All Rights Reserved

3.4 Troubleshooting

Refer to the following table to check and correct any failure before contacting service personnel.

Symptom	Possible Cause	Corrective Action
Scale does not turn on	Dead batteries	Replace batteries or connect to AC power
	Faulty electrical outlet	Use a different electrical outlet
	Bad power supply	Replace adapter
Questionable weight or the scale does not zero	External object is interfering with the scale	Remove the interfering object from the scale
	Display did not show 0.0 before weighing	Help the patient off the scale, zero the scale and begin the weighing process again
	Scale is not placed on a level floor	Ensure scale is level and begin the weighing process again
	Scale is out of calibration	Check the weight with a certified calibration weight
The display shows a ***STOP*** message	The load on the scale exceeds the capacity of the scale	Remove the excess weight and use the scale according to manufacture specifications
The display shows ***LO Bat*** message	The battery is low	Replace batteries
The display shows E and Err messages as detailed below		
E06	Identifier - ADC	AD too high
E07		AD too low
E10	Overload	Scale has been overloaded. Remove load from scale
E4L	BAT	Battery low, but still usable- one bar left on indicator display
E4U		Battery low and unstable - no bars left on indicator display
E11	CAL	Calibration Error - recalibrate scale
Err 1	Load cell cable may be plugged into wrong connection port	Ensure cable is connected to the load cell connection port. ***Note:*** *Load cell connection point is located underneath the curved plastic cover of the indicator. Remove four back retaining screws, remove curved back cover to access load cell connection point.*
Err 2	Low saturation state (low A/D)	The load cell is not connected properly; Check the cables and mechanical connections; if the problem persists, replace the set of load cells
Err 3	High saturation state (high A/D)	See Err 2
Err 6	Unstable weight; Cannot calibrate	Check the load cell mechanical surroundings and ensure nothing is contacting the load cell and that the cables are properly welded
Err 7	Scale isn't moving	Make sure feet are installed on the scale. Turn the feet all the way in and then back them out three full turns, then level the scale
SAT	Damaged load cell cable	Replace load cell cable
	Load cell cable may be plugged into wrong connection port	Ensure cable is connected to the load cell connection port. ***Note:*** *Load cell connection point is located underneath the curved plastic cover of the indicator. Remove four back retaining screws, remove curved back cover to access load cell connection point.*

Table 3-2. Troubleshooting

4.0 Configuration

Options and parameter setup are done through the scale configuration. Access to the setup switch is located inside the battery cover (shown below).

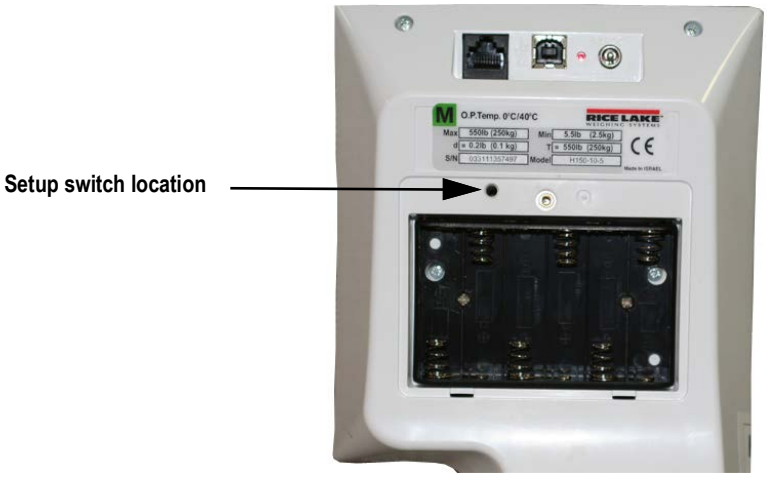


Figure 4-1. Setup Switch Location

4.1 General Navigation

Use the buttons on the front panel to navigate through the menus and parameters.

4.1.1 Change Parameters

- Press BMI to scroll through the menus and/or parameters
- Press ENTER to enter a displayed menu and/or parameter
- Press ▲ or ▼ to scroll through values
- Press ENTER to save the displayed selection and move to the next parameter

4.1.2 Enter Numbers

- Press ENTER to enter parameter value
- Press ▲ or ▼ to increment/decrement numbers
- Press BMI to move to the next digit
- Press ENTER to save value and move to the next parameter

4.1.3 Save and Return to Main Menu

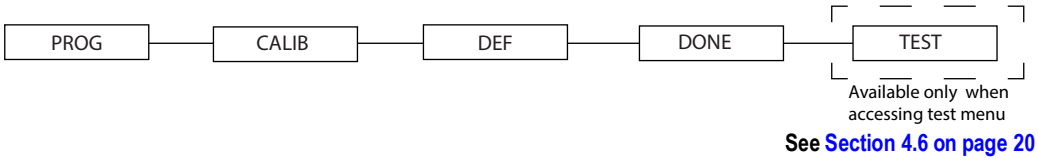
- When a parameters selection/value is correct, press ENTER. The next parameter displays
- When all parameters selections/values are correct, *SAVE* displays
- Press ENTER. DONE displays.
- Press ENTER to save settings and return to weigh mode.

© Rice Lake Weighing Systems ● All Rights Reserved

4.2 Configuration Mode

Use the following steps to enter into ***Configuration*** mode.

1. Ensure the scale is turned off.
2. Turn the scale on by simultaneously pressing ⏻ and ENTER. Continue to hold both keys until ***Id*** appears.
   The unit cycles through its startup function and continues to display the software version.
3. Access the setup switch located in the back of the scale to enter the setup parameters for the scale. Use a small paper clip, small screwdriver or other similar object to press the setup switch.
4. Once the setup switch is pressed, ***PROG*** displays.
5. Scale can be configured using a series of menus accessed through the front panel when the scale is in ***Setup*** mode.



See Section 4.6 on page 20

Figure 4-2. Top Level Menu

6. Press BMI to advance to the desired menu.
7. Press ENTER and advance in the manual to the related menu selection for further instructions.

4.3 Programming Mode Menu

Various parameters can be set while in ***Programming*** mode.

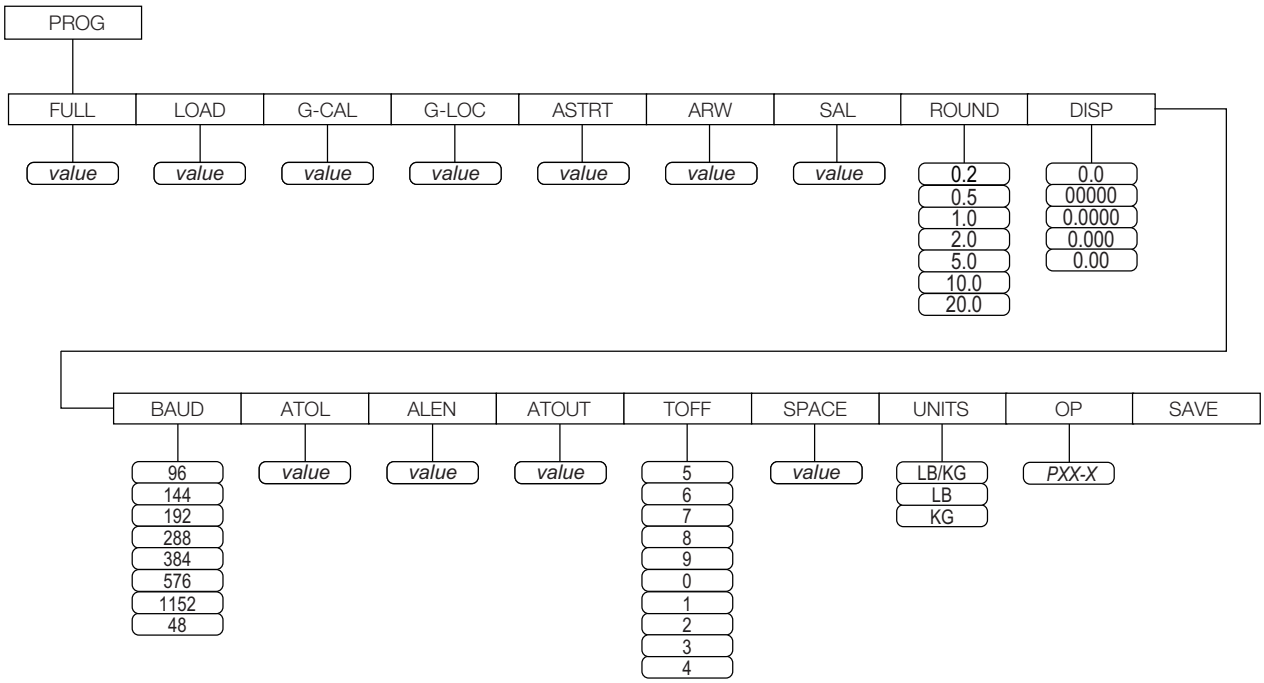


Figure 4-3. Programming Mode Menu Structure

The following table lists the various display messages and sequence when setting up the scale.

Parameter	Description	Choices	Steps
FULL	Full capacity of the scale	Value (*capacity of scale*)	The display toggles between a numeric value and ***FULL***; If you do not want to change the value, press the **BMI** key to move to the next setting; Example: from FULL to LOAD. If you want to change the value, use the following steps: 1. Press **ENTER** key to change value starting with the right most digit. 2. Use the **Up/Down** arrow keys to increment/decrement numbers. 3. Press **BMI** key to move to the left. 4. Use the **Up/Down** arrow keys to increment/decrement numbers. 5. Press **BMI** key again to move to the left 6. Use the **Up/Down** arrow keys to increment/decrement numbers. 7. When done press **ENTER** key to move to the next parameter (LOAD).
LOAD	This is the amount of weight applied during calibration; Can also be changed in the calibration menu	Value (200 lb)	The display toggles between a numeric value and ***LOAD***; If you do not want to change this value, press the **BMI** key to move to the next setting; Example: from LOAD to ASTART; If you want to change the value, use the following steps: 1. Press **ENTER** to change value starting with the right most digit. 2. Use the **Up/Down** arrow keys to increment/decrement numbers. 3. Press **BMI** key to move to the left. 4. Use the **Up/Down** arrow keys to increment/decrement numbers. 5. When done, press **ENTER** key to move to next parameter (G-CAL).

Table 4-1. Configuration Mode Menu

© Rice Lake Weighing Systems ● All Rights Reserved

Parameter	Description	Choices	Steps
G-CAL	Gravity calibration; sets gravity for original calibration	00000	The display toggles between 00000 and ***G-CAL***. Press the **BMI** key to move to the next setting. If you want to change the value, use the following steps; 1. Press **ENTER** to change the value starting with the right most digit. 2. Use the **Up/Down** arrow keys to increment/decrement numbers 3. Press **BMI** key to move to the left 4. Use the **Up/Down** arrow key to increment/decrement numbers 5. When done, press **ENTER** to move to the new parameter (G-LOC)
G-LOC	Gravity location; set gravity for location of us	00000	The display toggles between 00000 and ***G-LOC***. Press the **BMI** key to move to the next setting. If you want to change the value, use the following steps; 1. Press **ENTER** to change the value starting with the right most digit. 2. Use the **Up/Down** arrow keys to increment/decrement numbers 3. Press **BMI** key to move to the left 4. Use the **Up/Down** arrow key to increment/decrement numbers 5. When done, press **ENTER** to move to the new parameter (ASTART)
ASTRT	Weight process start limit — Maximum (full capacity)/10; Determine when the weight algorithm starts (when the "----" is displayed), below this value the scale will show live weight	Value (2.0)	The display toggles between a numeric value and ***ASTART***; If you do not want to change this value, press the **BMI** key to move to the next setting; Example: from ASTART to ARW; If you want to change the value, use the following steps: 1. Press **ENTER** key to change value starting with the right most digit. 2. Use the **Up/Down** arrow keys to increment/decrement numbers. 3. Press **BMI** key to move to the left. 4. Use the **Up/Down** arrow keys to increment/decrement numbers. 5. When done, press **ENTER** key to move to the next parameter (ARW).
ARW	Auto Reweigh — Restarts the weight algorithm if the weight changed by more than this value.	Value (4.0 lb)	The display toggles between a numeric value and ***ARW***; If you do not want to change this value, press the **BMI** key to move to the next setting; Example: from ARW to SAL; If you want to change the value, use the following steps; 1. Press **ENTER** key to change value starting with the right most digit. 2. Use the **Up/Down** arrow keys to increment/decrement numbers. 3. Press **BMI** key to move to the left. 4. Use the **Up/Down** arrow keys to increment/decrement numbers. 5. When done, press **ENTER** key to move to the next parameter (SAL).
SAL	Semi Auto Live —This value is the interval between weight displays during the algorithm process	Value (0.5)	The display toggles between a numeric value and ***SAL***; If you do not want to change this value, press the **BMI** key to move to the next setting; Example: from SAL to ROUND; If you want to change the value, use the following steps: 1. Press **ENTER** key to change value starting with the right most digit. 2. Use the **Up/Down** arrow keys to increment/decrement numbers. 3. When done, press **ENTER** key to move to the next parameter (ROUND).
ROUND	Scale Resolution — Values in kg: **1**, 2, 5, 10, 20, 50, 100 Values in lb: 1, **2**, 5, 10, 20, 50, 100, 200	0.2 0.5 1.0 2.0 5.0 10.0 20.0 0.1	The display toggles between a numeric value and ***ROUND***; The decimal point location is set to the DISP parameter display decimal point location; If you do not want to change this value, press the **BMI** key to move to the next setting; Example: from ROUND to DISP; If you want to change the value, use the following steps: 1. Press **ENTER** key to change value. 2. Press the **Up/Down** arrow keys to change the available parameters. 3. When done, press **ENTER** key to move to the next parameter (DISP).
DISP		0.0 0 0.0000 0.000 0.00	The display toggles between a numeric value and ***DISP***; If you do not want to change this value, press the **BMI** key to move to the next setting; Example: from DISP to BAUD; If you want to change the value, use the following steps: 1. Press **ENTER** key to change value. 2. Use the **Up/Down** arrow keys to change the available parameters. 3. When done, press **ENTER** key to move to the next parameter (BAUD).

Table 4-1. Configuration Mode Menu (Continued)

Parameter	Description	Choices	Steps
BAUD	Baud rate	96 48 1152 576 384 288 192 144	Indicator display illustrates first two digits of baud rate only; The display toggles between a numeric value and baud; If you do not want to change this value, press the **BMI** key to move to the next setting; Example: from BAUD to ATOL; If you want to change the value, use the following steps 1. Press **ENTER** key to change value: 2. Use the **Up/Down** arrow keys to change the available parameters. 3. When done, press **ENTER** key to move to the next parameter (ATOL).
ATOL	Algorithm initial tolerance — Maximum value is 255. Values above 255 will not let you proceed and will return to the previous value.	Value (10)	The display toggles between a numeric value and ***ATOL***; If you do not want to change this value, press the **BMI** key to move to the next setting; Example: from ATOL to ALEN; If you want to change the value, use the following steps: 1. Press **ENTER** key to change value starting with the right most digit. 2. Use the **Up/Down** arrow keys to increment/decrement numbers. 3. Press the **BMI** key to move to the left. 4. When done, press **ENTER** key to move to the next parameter (ALEN).
ALEN	Algorithm initial exponent — Maximum value 10. Values above 10, will not let you proceed and will return to the previous value.	Value (8)	The display toggles between a numeric value and ***ALEN***; If you do not want to change this value, press the **BMI** key to move to the next setting; If you want to change the value, use the following steps: 1. Press **ENTER** key to change value starting with the right most digit. 2. Use the **Up/Down** arrow keys to increment/decrement numbers. 3. When done, press **ENTER** key to move to the next parameter (ATOUT).
ATOUT	Algorithm maximal exponent — Maximum value is 15. Values above 15, will not let you proceed and will return to the previous value.	Value (10)	The display toggles between a numeric value and ***ATOUT***; If you do not want to change this value, press the **BMI** key to move to the next setting; If you want to change the value, use the following steps: 1. Press **ENTER** key to change value starting with the right most digit. 2. Use the **Up/Down** arrow keys to increment/decrement numbers. 3. Press **BMI** key to move to the left. 4. Use the **Up/Down** arrow keys to increment/decrement numbers. 5. When done, press **ENTER** key to move to the next parameter (TOFF).
TOFF	Auto off timer — Measured in minutes; 0 = always on; Maximum is 9 minutes; When using an external power supply, this parameter is irrelevant	5 4 3 2 1 0 9 8 7 6	The display toggles between a numeric value and ***TOFF***; If you do not want to change this value, press the **BMI** key to move to the next setting; Press the **ENTER** key to move to the next parameter; (UNITS); If you want to change the value, use the following steps; 1. Press the **ENTER** key to change values. 2. Use the **Up/Down** arrow keys to change the available parameters. 3. When done, press **ENTER** key to move to the next parameter (UNITS).
SPACE	Number of new lines after print	7	The display toggles between a numeric value and ***SPACE***; If you do not want to change this value, press the **BMI** key to move to the next setting: Press the **ENTER** key to move to the next parameter; (UNITS); If you want to change the value, use the following steps; 1. Press the **ENTER** key to change values. 2. Use the **Up/Down** arrow keys to change the available parameters. 3. When done, press **ENTER** key to move to the next parameter (UNITS).
UNITS	Units — Selects the unit of measure; It can be either kg/lb, kg only or lb only	KG/LB KG LB	The display toggles between unit of measurements and ***UNIT***; If you do not want to change this value, press the **BMI** key to move to the next setting; Example: from UNITS to OP; If you want to change the value, use the following steps: 1. Press the **ENTER** key to change values. 2. Press the **Up/Down** arrow keys to change the value. 3. When done, press the **ENTER** key to move to the next parameter (OP).

Table 4-1. Configuration Mode Menu (Continued)

© Rice Lake Weighing Systems ● All Rights Reserved

Parameter	Description	Choices	Steps
OP	Binary options: OP0 — Live weighing options (0=disable, 1=enable) OP1 — Communication protocol (0=ESC, 1=maintenance) OP2 — BMI menu (0=disable, 1=enable) OP3 — RTC power (0=disable, 1=enable) OP4 - Semi-Auto-Live — (0=disable, 1=enable) OP5 - Full calculation — (0=spatial, 1=multiply by (0=disable, 1=enable OP6 - Tare - (0=disable, 1=enable OP7 - Bat type — (0=dry batteries, 1=rechargeable batteries) OP8 — OIML mode - (0=disable, 1=enable	OP0 OP1 OP2 OP3	The display toggles between a binary option and ***POO-0***; If you do not want to change this value, press the **BMI** key to move to the next settings If you want to change the value, use the following steps: 1. Press **ENTER** to change parameters. 2. Use the **Up/Down** arrow keys to select the display value you want to change. 3. Press **BMI** key to move the flashing cursor a. Use the **Up/Down** arrows to change the value. b. Press the **BMI** key to move the flashing cursor. 4. Press **ENTER** key to save all of the display parameters. ***SAVE*** appears on the display. 5. Press **ENTER** key again and ***DONE*** appears indicating that you are now done entering all of the parameters of the scale.
Press the **BMI** key to cycle back to the top level menu choices, ie: PROG/CALIB/DEF/DONE			

Table 4-1. Configuration Mode Menu (Continued)

4.4 Default Menu

The default menu is used to return the scale back to its factory settings and is shown below.

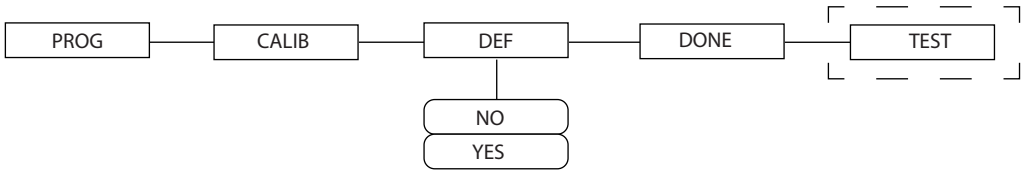


Figure 4-4. Default Menu

Use the following steps to return the settings back to their factory default.

1. Press ENTER. The display shows a default value of ***NO.***
2. To change to ***YES***, use ▲ and ▼ to adjust the value.
3. Press ENTER and the display shows ***DONE***.
4. Press BMI to return to PROG/CALIB/DEF/DONE upper level menu.

NOTE: Selecting YES and pressing ENTER will reset to factory defaults settings without changing the calibration and will return you to Weigh mode.

4.5 Scale Calibration

Use the following steps to calibrate the scale.

1. Press ⏻ and ENTER simultaneously to power on the scale.
2. The unit cycles through its startup function and continues to display the software version. Continue to hold both keys until ***Id*** appears.
3. Access the setup switch located in the back of the scale to enter the setup parameters for the scale. Use a small paper clip, small screwdriver or other similar object to press the setup switch on the back of the indicator (under the cover).
4. ***Prog*** displays. Press BMI to toggle along the parameter menu.
5. ***Calib*** displays and enter the calibration parameters.
6. Press ENTER and a numeric value is displayed which represents the amount of weight that is used for calibration.

   Lb will be flashing. To switch between lb and kg, press ▲ or ▼. Once a unit is selected, press ENTER and the right most digit will be flashing.
7. To change the calibration load value, press ▲ or ▼ to increment/decrement the flashing digit.
8. Use BMI to move the flashing digit to the left or right.
9. Once all the digits have been entered, press ENTER and ***Clear*** displays.
10. Make sure the scale platform is clear of weight and press ENTER again then **=====** displays.
11. A request to put the chosen load on the platform is displayed by ***Put xxx.xx***.
12. Put the chosen weight on the platform and press ENTER. **=====** displays then ***Save*** displays.

© Rice Lake Weighing Systems ● All Rights Reserved

13. Press ENTER again and the display indicates ***Done***.
14. Press BMI three times to exit back out to the top level ***Done*** parameter.
15. Press ENTER to return to ***Weigh*** mode.
16. To exit calibration without changing zero or span existing calibration, press CLEAR, then press BMI.

4.6 Test Menu

To access the ***TEST*** menu, use the following steps.

1. Simultaneously press ⏻ and ENTER to power on the scale until ***ID*** flashes.
2. Press ENTER. Press ENTER to access the test menu.
3. Continue to press BMI to scroll through the various menu items.
4. Once complete, press BMI until ***Done*** displays.
5. Press ENTER to start the weighing process.

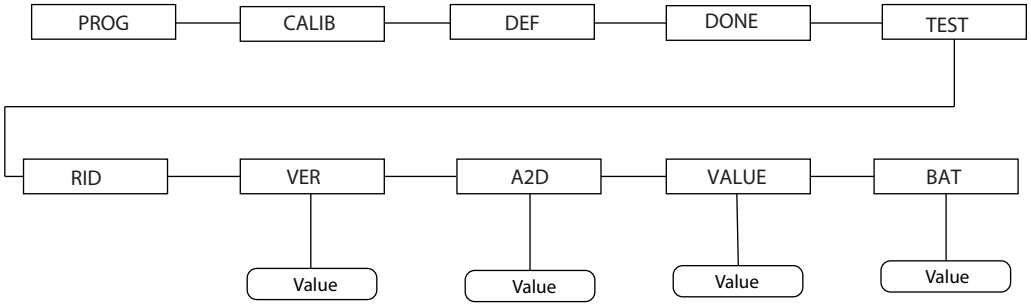


Figure 4-5. Test Menu

Parameter	Choice	Description
RID	Value	Internal ID number
VER	Value	Displays the current software version
BAT	Value	Displays the current battery level
VALUE	Value	Displays the actual value
A2D	Value	Displays the actual raw counts of the scale

Table 4-2. Test Menu

5.0 Communication

The unit comes with an RS-232 port that enables weight data to be transmitted to other equipment, such as a computer or printer. The RS-232 cable with DB-9 connector (PN 100719) is available from Rice Lake Weighing Systems. That connection is shown in USB Connection section on the next page.

The RS-232 parameters are:

- 9600 baud (selectable in the programming mode)
- 8 data bits
- 1 stop bit
- no parity
- no handshaking

There are three methods of communication:

- Push-button keypad print
- Standard remote protocol
- Escape protocol

5.1 Push-button Keypad Print

With a stable, in-range weight, press and hold for at least three seconds, or until the scale emits two quick beeps.

NOTE: If the scale does not beep after five seconds, release as the weight was either in motion or out of range.

If displaying weight and not BMI, the scale will send out the following 21 character string:

xxxxxxxxx<SP>uu<SP>mmmmm<SP><CR><LF>

Token	Description
xxxxxxxxx	Weight with decimal point and “-” sign
<SP>	Space
uu	Unit - lb or kg
mmmmm	Mode - gross or net
<CR>	Carriage return
<LF>	Line feed (moves cursor down to the next line)

Table 5-1. Print Format Tokens

Example:

-10 Lb net = <SP><SP><SP><SP>-10.0<SP>lb<SP><SP>Net<SP><SP><SP><CR><LF>

10 Lb gross = <SP><SP><SP><SP><SP>10.0<SP>lb<SP>Gross<SP><CR><LF>

- The scale will send out the following data while in ***BMI*** mode (displaying the BMI value):

Setting	Value
Gross Weight	215 Lb
Tare Weight	0.0 Lb
Net Weight	215 Lb
Patient Height	6-01.0 ft
Patient BMI	28.4

Table 5-2. BMI Data

© Rice Lake Weighing Systems ● All Rights Reserved

5.2 USB Connection

The scale has the capability of connecting to a Windows® computer (PC) using a USB cable (not included) and a terminal emulation program. A terminal emulation program allows the transfer of data between the scale and PC using a serial port.

Figure 5-1. Connection Ports

NOTE: Apple® and Macintosh® computers are unable to transfer the necessary data to the scale. Only use a PC for data transfer.

Connecting software and downloads should always be addressed by the IT department for safety reasons and can vary depending on what type of computer platform is being used.

NOTE: Consult the IT department if driver protections are preventing the use of the USB driver. Driver protections may need to be temporarily disabled on Windows 10 or later computers to allow for the installation of the USB driver.

1. Connect the scale's indicator to a PC using a USB-Type B to USB-Type A cable (not included).
2. Turn the indicator on.

NOTE: In most cases, the PC should find the driver and automatically configure the driver when the scale is plugged into a USB port.

3. Open a terminal emulation program, such as Advanced Serial Port Terminal, pUtty or Hercules (used in this example).
4. Connect to the serial port assigned by the PC (COM5 in example). This can be found in Device Manager. Once selected, press **Open**.

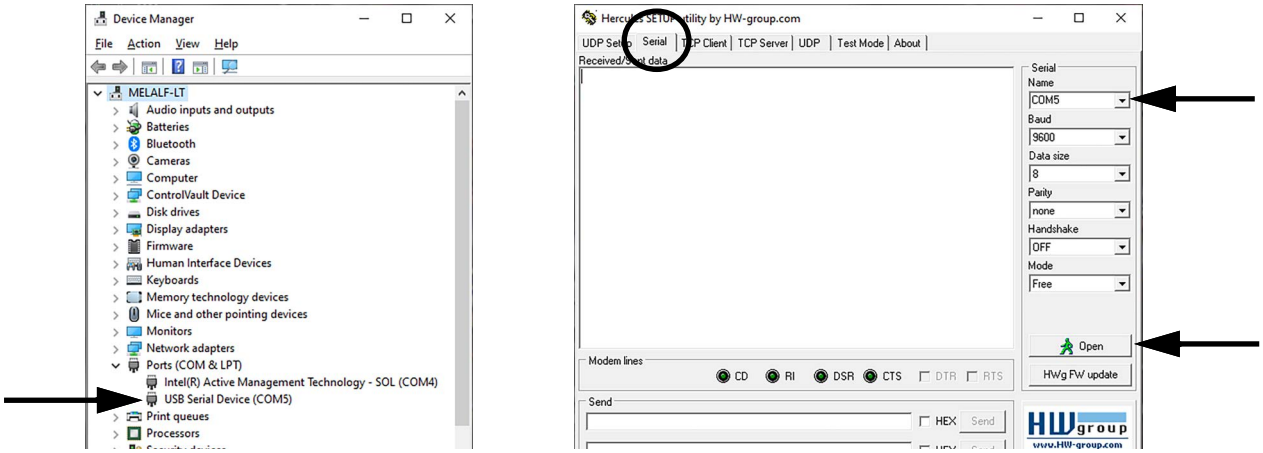


Figure 5-2. Connecting to a Serial Port

5. With weight on the scale, press and hold the **Print** button on the indicator for three seconds. The patient's weight is sent to the PC.

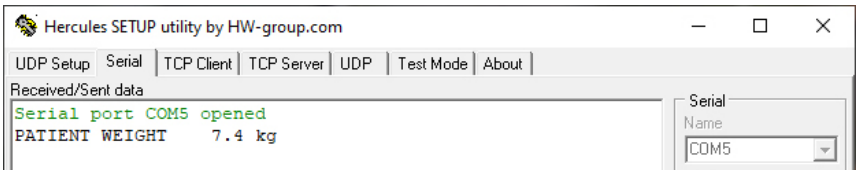


Figure 5-3. Patient Weight Displayed

6.0 Maintenance

The following section provides instructions for maintaining and cleaning the unit.

IMPORTANT: Do not immerse the scale in cleaning or other liquid solutions.

Do not use Isopropyl alcohol or other solutions to clean the indicator display surface.

6.1 Basic Maintenance

Before the first use of the scale and after periods of non-use, check the scale for proper operation and function. If the scale does not operate correctly, contact a qualified service personnel.

Go through the following steps for basic maintenance.

- Check the overall appearance of the entire scale for any obvious signs of damage
- Inspect the condition of the AC power adapter cord for cracking, fraying or for broken or bent prongs

6.2 Cleaning

Proper care and cleaning is essential to ensure a long life of accurate and effective operation. Before beginning the cleaning process, disconnect the scale from the AC power source.

- Clean all external surfaces with a clean, damp cloth or tissue. Mild soap and water solution may be used. Dry with a clean soft cloth
- Do not immerse the scale into cleaning or other liquid solutions
- Do not use Isopropyl alcohol or other solutions to clean the display surface

© Rice Lake Weighing Systems ● All Rights Reserved

7.0 Specifications

Power

120 VAC - 9 VDC - 60 Hz / 230 VAC - 9 VDC - 50 Hz

Battery Type

6 AA size Alkaline batteries

Battery Use

25 hours continuous use
Automatic power-off can be configured

Data Communications

RS-232 with RJ-45 jack
USB connection
Selectable baud rate, default - 9600
8 bits
No parity
1 stop bit
No handshaking

Environmental

Operating Temperature	50°F to 104°F (14°C to 40°C)
Storage Temperature	32°F to 176°F (0°C to 80°C)
Humidity	85% relative humidity

Capacity

550 lb x 0.2 lb (250 kg x 100 g)

© Rice Lake Weighing Systems Content subject to change without notice.

230 W. Coleman St. • Rice Lake, WI 54868 • USA USA: 800-472-6703 • International: +1-715-234-9171