Healthweigh® H651-10

Class I MDR Baby Scale Model 2 and 4

Operation Manual

RICE LAKE®
WEIGHING SYSTEMS

November 5, 2024

PN 217791 Rev C

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www.ricelake.com

Revision History

This section tracks and describes manual revisions for awareness of major updates.

Revision	Date	Description
A	October 3, 2023	Established revision history
B	August 20, 2024	Updated compliance and certification sections
C	November 5, 2024	Added power supply information

Table i. Revision Letter History

Contents

1.0 Introduction

The Healthweigh® Baby Scale is an electrically-powered device designed to measure the weight of an infant, particularly a newborn, or to monitor weight changes during critical care procedures. It typically consists of a weight tray, a flexure plate or bending beam, an electronic transducer and an analogue or digital display. It may also include markings to measure infant length. The device is also known as a pediatric or baby scale.

The scale provides accurate, reliable and repeatable weighing information with special motion sensing weighing technology, which compensates for involuntary movement caused by an active baby. The baby's weight is displayed in kilograms/grams.

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

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

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.

Do not use in the presence of flammable materials.

Operating at other voltages and frequencies than specified could damage the equipment. Use only medical approved mains adapters compliant with EN60601-1 standard.

Do not modify this equipment without authorization of the manufacturer.

Do not put this equipment next to or stacked on top of other equipment. This may result in malfunction. If such placement is unavoidable, ensure equipment is monitored regularly for correct operation.

Do not use accessories, transducers or cables other than those specified or provided by manufacturer. This could result in increased electromagnetic emissions or decreased electromagnetic immunity leading resulting in malfunction (see Section 6.0 on page 15).

Portable RF communications accessories (including peripherals such as antenna cables and external antennas) should be used no closer than 30 mm to the equipment or cables specified by the manufacturer. This may result in equipment performance degradation (see Section 6.0 on page 15).

Ensure the equipment is located in a shielded location. Failure to do so may result in performance degradation, interference with other equipment or interference with radio services.

This equipment has been tested for radiated RF immunity at selected frequencies. Using this equipment near equipment emitting other frequencies could result in improper operation (see Section 6.0 on page 15).

CAUTION: To prevent injury, never leave the person being weighed unattended while on the scale.

To prevent injury, do not transport the scale while a patient is on the scale.

Make sure no load is on the scale before transporting the scale.

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

The scales are for determining weight of persons in rooms intended for carrying out medical care. The scales are NOT intended to diagnose, prevent and monitor diseases. The scales are equipped with serial interface that can connect to the equipment compliant with EN60601-1 standard.

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

For accurate weighing, verify proper operation according to the procedure described in this manual before each use.

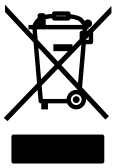
If the "LO Bat" indicator activates, for accurate weighing, recharge the battery or connect the scale to an AC power source as soon as possible.

To avoid cross contamination, clean the scale plate after each weighing. Avoid direct skin contact during weighing.

Materials in the products have been tested and approved for the safe use by operator and patient.

All batteries included with Healthweigh products intended for sale in the EU market are classified as 'Portable Batteries for General Use' and comply with European Battery Regulation (EU) 2023/1542.

1.1 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.

2.0 Setup

The H651 scales been calibrated at the plant. The scale is shipped in two assembled pieces: the weighing tray and the base assembly. Remove each part from its packing and remove the packing material carefully to prevent scratching the unit's parts.

1. Place the base assembly on a steady surface.
2. Remove the two transport protection units from each corner.
3. Attach weighing tray to the base assembly.

Figure 2-1. Assembly after Shipment

2.1 Power Supply

Power the device with the scale's built-in rechargeable battery, USB boost, or medical-approved power supply with shielding and 1500 mm cable (230/120/ ACV 50/60 Hz, 9 VDC 0.5 AMP). The scale will automatically switch to battery operation when an AC power source or USB boost is absent. AC adapter is used as a disconnection device from the mains.

CAUTION: Use only medically approved power sources compliant with EN60601-1 standard.

2.2 Scale Setup

Follow the procedure below to set up the scale device:

1. To operate using the AC adapter, insert the AC adapter cable into the back of the scale and the AC adapter plug into a power source.
2. Press the **ON/OFF** button to turn the scale on.
3. The display will show *START* and then *00.0*.
4. When the self-test function is complete, the digital display should read *00.0* and the charge indicator should be illuminated on the back.
5. Place a weight not exceeding 15 kg on the scale. The digital display should blink "=====" until the weight calculation is complete. Press the KG/LB button to select the weight mode, in either kilograms or pounds.
6. Press the **REWEIGH** button; the digital display should again show the weigh of the item on the scale.
7. Press the **HOLD** button; the HOLD flag will appear on the display scales.
8. Remove the weight from the scale. The digital display should continue to show the weight of the item that was on the scale.
9. Press the **HOLD** button, the HOLD indicator will disappear and the digital display should return to zero.
10. Disconnect the scale from the AC power source. The scale should automatically switch over to the battery power and if a rechargeable battery is in use, the charge indicator should turn off.

NOTE : If the set up procedure failed, refer to teh TROUBLESHOOTING section for instructions. If the problem is not resolved, refer to qualified service personnel.

The Rechargeable batteries automatically go into recharge mode when the AC adaptor connected to the power source

When the cable is inserted into the power source the LED lights up red. When the battery is completely recharged, the LED changes from red to green.

After the procedure, if you are using a rechargeabel battery, connect the scale to an AC power source for at least eight hours to recharge the battery.

3.0 Operation

3.1 Keypad

Figure 3-1. Keypad

Key	Name	Function
	On/Off	Turns scale ON/OFF.
	Reweight	Restarts the weighing algorithm. A long key press activates the print function.
	Hold/Release	Long press keeps the most current weight value shown on the display along with the HOLD indicator. Pressing on this key while HOLD indicator is on will release the weight and turn off the HOLD indicator. This key is not active on BMI mode.
	Tare	For weight under the limit, will enter manual tare. If above the limit will enter tare function. NET and GROSS indicators are on according to the tare operation. The maximum tare value is 4.000 kg/9.000 lb.
	Zero	Zeroes the weight on the scale if the scale is stable. This function will work only if the actual weight is up to 2% of the Max Weight.
	Clear	
	KG/LB	Toggles between pounds and kilograms (providing it is enabled on configuration mode).
	Enter	Accepts the value of the parameter last entered and moves to the next stage. A long press during scales start-up process will enter id display (pre-parameter mode).

Table 3-1. Keypad Functions

Key	Name	Function
	Shift Left	This key is used to shift left the digit flashing.
	Up/Down	This key used to adjust the value of the flashing digit/number.

Table 3-1. Keypad Functions (Continued)

Preset Tare

1. When the weight is below the limit, press the **TARE** key.
2. The default tare value is displayed while the zero is flashing
3. UP/DOWN key used to adjust the value.
4. Press enter to start the tare function. NET annunciator turned on instead of the GROSS annunciator.

Toggle Tare

1. When the wieght is above the limit, press the **TARE** key.
2. The tare activated with the value that displayed at the time of the tare activation.
3. NET annunciator turned on instead of the GROSS annunciator.

In both cases, to exit the Tare function, press **TARE** key.

3.2 Display

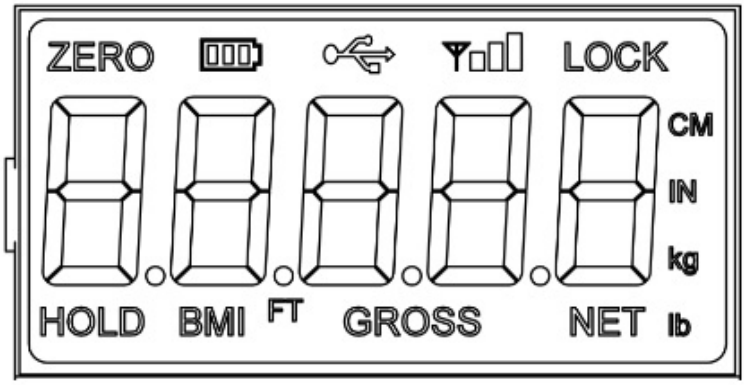


Figure 3-2. Display

Battery Indicator

Battery Status	Flag Indicator
Maximum battery value	3 bars are on
Medium 2 battery value	2 bars are on
Medium 1 battery value	1 bar is on
Low battery	Battery frame
Minimum	Flashing battery frame
Critical	Scrolling *LOW BAT* and auto shutoff
No battery	Off

Table 3-2. Battery Status Indicators

- If external power supply is connected the battery flag is turned off.
- When on battery, the backlight power is reduced to 60 percent.

NOTE: A Philips head screwdriver is required for battery removal.

IMPORTANT: 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.

3.3 Weighing

1. Press the **ON/OFF** button to turn the scale on.
2. Wait until *00.0* appears on the digital display.
3. Place a pad/paper towel on the weighing tray. Make sure that the edges of the pad are on the tray and are not touching the surface on which the scale positioned.
4. Press the **ZERO** button to cancel the weight of a pad or other accessory that is on the weighing tray.
5. Place the infant on the scale. The display will blink ===== until the weight of the infant is determined.
6. Press the **REWEIGH** button; the digital display should again show the weight of the item on the scale.
7. Press the **HOLD** button; the HOLD flag will appear on the display scale.
8. Remove the infant from the scale. The digital display should continue to read the infant's weight until HOLD button pressed again.

WARNING: Three beeps sound upon weighing. Make sure the HOLD button is released if no beeps were sounded.

NOTE: IF the scale has not been used for two minutes, it switches off in order to save battery life and power. To restart the scale, press the ON/OFF button.

3.4 Communication

For connecting the scales with the computer, please refer to Rice Lake Weighing Systems' technical support or distributor.

4.0 Maintenance

This section provides instructions for maintenance, cleaning, troubleshooting and operator replaceable parts for the Healthweigh® Baby Scale Model H650/H651. Maintenance operations other than those described in this section should be performed by qualified service personnel.

IMPORTANT: Before first use and after periods of non-use, check the scale and batteries for proper operation and function. If the scale does not operate correctly, refer to qualified service personnel.
Check overall appearance of the scale for damage, wear and tear.
Check the batteries for damage, wear and tear. Do not use if damaged.
Inspect AC adapter for cord cracking or fraying or for broken or bent prongs.
For models with dry batteries, before period of non-use remove the batteries.

WARNING: Maintenance operations not mentioned in this section, should be perform by qualified service personnel.

4.1 Cleaning

Proper care and cleaning is essential to ensure a long life of accurate and effective operation.

WARNING: Disconnect the scale from the AC power source before cleaning.

CAUTION: Do not immerse the scale into cleaning or other liquid solution.
Do not use Isopropyl Alcohol or other solutions to clean the display surface.

Clean all external surfaces with a clean damp cloth or tissue.

To clean the tray:

1. Remove the tray.
2. Wash with mild solution of soap and water.
3. Make sure the tray is dry before replacing it on the scale.

4.2 Replacing Batteries

Use the following instructions to replace batteries:

1. Turn off the scale.
2. Turn over the scale
3. Using a cross-head screw driver remove the battery cover, keep the screw for reassembly.
4. Replace the batteries with a new set of 6 AA 1.5V batteries.
5. Close the battery cover using the same screws.
6. Turn over the scale and replace the scale.

IMPORTANT: 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: Before you replace the batteries, disconnect the scale from the AC power source.
Replacing the rechargeable battery should be performed by qualified service personnel, refer to Service Manual AB0031 chapter 3 - repair procedures 1.
Model H650 has primary Lithium batteries - in case of batteries leakage - disconnect power supply and call Service.
Inappropriate Batteries placement - will cause to damage to batteries and might ignite the batteries.

4.3 Calibration Procedure

Calibration to be performed by authorized personnel only

IMPORTANT: Scales with OIML Class III compliance have a seal to prevent any unauthorized person from performing calibration.

4.4 Troubleshooting

Refer to the following instructions to check and correct any failures before contacting service personnel.

Symptom	Possible Cause	Corrective Action
Scale does not turn on when using rechargeable battery	Dead battery	Connect scale to power source
		Replace batteries
	Faulty electrical outlet	Use a different outlet
	Bad power supply	Replace adapter
Questionable weight/ Scale does not zero	External object interfering with the scale	Check and remove all interference from the scale
	Weighing tray is not placed properly	Place the tray in its proper place
	Display did not show *0.0 kg* before weighing	Remove patient, zero the scale and begin weighing process again
	Scale not placed on a stable surface	Place the scale on a stable surface and begin weighing process again
	Scale is out of calibration	Check weigh with known weight value
The display shows *STOP*	Load on the scale exceeds the capacity	Remove the excess weight and use the scale according to its limits
the display shows _____	Load is in under-load condition	Make sure the weighing tray is placed on the base
The display shows *LO Bat*	Rechargeable battery is low	Recharge the battery according to instructions

Table 4-1. Troubleshooting Checklist

Error No.	Definition	Check/Replace
SAT	A/D saturation	Check loadcell - Call technician
RTC	Error in reading Real Time Clock	Battery of real time is empty or faulty board - Call technician

Table 4-2. Error List

5.0 Specifications

H651-10 Capacity and Graduation

Max 20 kg, Min 0.1 kg, Graduation (“e”) 0.005 kg

Power Requirements

Adapter 240V/10, 50/60Hz-9 VDC, 500 mA
Use only medically approved mains adapters compliant with EN60601-1 standards.

Environmental

Operating Temperatures: 0°C to 40°C / 0°F to 104°F
Storage Temperatures: 0°C to 50°C / 32°F to 122°F
Humidity: 85%
Use in atmospheric pressure

Product Dimensions

Length: 61 cm
Height: 16 cm
Width: 45 cm
Weight: 9.2 kg

WARNING: In order to comply with EN60601-1, use UL/CE approved AC/DC adapter UE15WPC-1201255PA.

The scale is not intended for use in the presence of flammable mixtures.

In order to comply with EN60601-1 use rechargeable battery supplied by Rice Lake Weighing Systems.

In order to comply with EN60601-1 USB Power supply will be from a medical grade approved source only. Client will take full responsibility upon use of USB power connection.

6.0 Appendix

Guidance and Manufacture's Declaration – Electromagnetic Immunity

The medical scale is suitable for use in the specified electromagnetic environment and it has meets the following immunity test levels. Higher immunity levels may cause the medical scale's essential performance lost or degraded.

Phenomenon	Basic EMC Standard or Test Method	Home healthcare facility environment
Electrostatic discharge	IEC 61000-4-2:2008	+/- 8 kV contact +/- 2 kV, +/- 4 kV, +/- 8 kV, +/- 15 kV air
Radiated RF EM fields	IEC 61000-4-3:2006+A1+A2	10 V/m 80MHz-2.7GHz 80%AM at 1kHz
Proximity fields from RF wireless communications equipment	IEC 61000-4-3:2006+A1+A2	See the RF wireless communication equipment table in "Recommended minimum separation distances".
Rated power frequency magnetic fields	IEC 61000-4-8:2009	30A/m; 50 Hz or 60Hz
Electric fast transients bursts	IEC 61000-4-4:2012	Input a.c. power PORT, Input d.c. power PORT, ±2kV, 100kHz repetition frequency PATIENT coupling PORT, Signal input/output parts PORT: ± 1 kV, 100 kHz repetition frequency
Surges	IEC 61000-4-5:2014	Input a.c. power PORT, Input d.c. power PORT, Line to line: ±0.5kV, ±1kV Line to earth: ±0.5kV, ±1kV, ±2kV Signal input/output parts PORT? ±2kV
Conducted disturbances induced by RF fields	IEC 61000-4-6:2013	Input a.c. power PORT, Input d.c. power PORT, PATIENT coupling PORT, Signal input/output parts PORT 3 V in 0.15 MHz - 80 MHz 6 V in ISM and/or amateur radio bands between 0.15 MHz and 80 MHz 80 % AM at 1kHz
Voltage dips	IEC 61000-4-11:2004	0% U_T: 0.5 cycle at 0°, 45°, 90°, 135°, 180°, 225°, 270°, and 315° 0% U_T: 1 cycle and 70% U_T: 25/30 cycles sine phase at 0°
Voltage interruptions	IEC 61000-4-11:2004	0% U_T: 250/300 cycle
Proximity magnetic fields immunity test	IEC 61000-4-39:2017	No. Test frequency Modulation Immunity test level (A/m) 30 kHz CW 8 134.2 kHz Pulse modulation, 2.1 kHz 65 13.56 MHz Pulse modulation, 50 kHz 7.5
U_T: rated voltage(s); E.g. 25/30 cycles means 25 cycles at 50Hz or 30 cycles at 60Hz		

Guidance and Manufacture's Declaration – Electromagnetic Emissions

The medical scale is suitable for use in the specified electromagnetic environment and it has meets the following standard's emission requirements.

Phenomenon	Profession Healthcare Facility Environment	Home Healthcare Environment
Conducted and radiated RF emissions	CISPR 11, Group 1, Class B	CISPR 11, Group 1, Class B
Harmonic distortion	IEC 61000-3-2:2005+A1+A2, Class A	IEC 61000-3-2:2005+A1+A2, Class A
Voltage fluctuations and flicker	IEC 61000-3-3:2013	IEC 61000-3-3:2013

Recommended Minimum Separation Distances

Nowadays, many RF wireless equipments have being used in various healthcare locations where medical equipment and/or systems are used. When they are used in close proximity to medical equipment and/or systems, the medical equipment and/or systems' basic safety and essential performance may be affected. This medical scale has been tested with the immunity test level in the below table and meet the related requirements of IEC 60601-1-2:2014. The customer and/or user should help keep a minimum distance between RF wireless communications equipment and this medical scale as recommended below.

Test Frequency (MHz)	Band (MHz)	Service	Modulation	Maximum Power (W)	Distance (m)	Immunity Test Level (V/m)
385	380-390	TETRA 400	Pulse modulation 18Hz	1.8	0.3	27
450	430-470	GMRS 460 FRS 460	FM ± 5 kHz deviation 1 kHz sine	2	0.3	28
710	704-787	LTE Band 13, 17	Pulse modulation 217Hz	0.2	0.3	9
745						
780						
810	800-960	GSM 800/900, TETRA 800, iDEN 820, CDMA 850, LTE Band 5	Pulse modulation 18Hz	2	0.3	28
870						
930						
1720	1700-1990	GSM 1800; CDMA 1900; GSM 1900; DECT; LTE Band 1, 3, 4, 25; UMTS	Pulse modulation 217Hz	2	0.3	28
1845						
1970						
2450	2400-2570	Bluetooth, WLAN, 802.11 b/g/n, RFID 2450, LTE Band 7	Pulse modulation 217Hz	2	0.3	28
5240	5100-5800	WLAN 802.11 a/n	Pulse modulation 217Hz	0.2	0.3	9
5500						
5785						

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