HANDRAIL SCALE
PH-740
INSTRUCTION MANUAL

Please keep this manual in a safe place, and make sure it is readily available whenever necessary. Please use this product only after carefully reading this manual and fully understanding its contents.
2. Safety Notes

Caution Symbols

For optimum performance and safety, please familiarize yourself with the Caution Symbols below. These symbols are designed to alert the user to potential hazards when using this equipment. Ignoring these Caution Symbols may result in serious injury, or damage to the product. Please be sure to review before proceeding with the INSTRUCTION MANUAL.

**WARNING**
This symbol indicates the possibility of serious injury if the product is mishandled or instructions are ignored.

**CAUTION**
This symbol indicates the possibility of physical injury or equipment damage if instructions are ignored.

**CAUTION**
This symbol indicates general precautions that should be taken when using this product.

**WARNING**
• Inserting and Removing the AC adapter to reduce the risk of electric shock or product damage, never insert or remove the AC adapter with wet hands.
• Do not use the equipment in a damp or moist environment.
• Do not exceed the maximum weight limit of the equipment.
• Do not subject the equipment to water or moisture.
• Do not use to an unauthorized person attempts to disassemble or repair any part of the equipment, the warranty will become invalid. When the unit malfunctions, please consult your nearest Tanita sales office or agent.

**CAUTION**
• Please observe the following instructions.
• If an unauthorized person attempts to disassemble or repair any part of the equipment, the warranty will become invalid.
• It may not measure correctly due to equipment malfunction.

**CAUTION**
• Please do not touch or lean on the height rod or the display during weighing as this will reduce accuracy.
• Please return the height rod to the storage position after completion of measurement.
• Please use caution when adjusting the height rod to prevent injury.
• Do not under any circumstances dismantle or alter the device, as this could result in electric shock or injury as well as adversely affecting the precision of measurement.

**WARNING**
• To prevent fire hazard use only a correctly wired (120V AC) outlet, and do not use a multiple outlet extension cable.

**CAUTION**
• Do not use cellular phones or microwave therapy equipment near this equipment.
• Do not wipe the equipment with corrosive chemicals (benzene, acetone, etc.). Please use a neutral detergent to clean the equipment.
• When disposing of this equipment, please do so in accordance with the prevailing regulations in your country, state and city.

**WARNING**
• Do not hang on the handrail.
• Never jump on the scale, there may be a risk of injury and malfunction of the equipment.
• Never disassemble or adjust the equipment, as this may cause malfunctions.

**CAUTION**
• Avoid subjecting the equipment to excessive shocks or vibrations.
• Do not use the equipment with corrosive chemicals (benzene, acetone, etc.) Please use a neutral detergent to clean the equipment.
• Do not use cellular phones or microwave therapy equipment near this equipment.

**CAUTION**
• The clips are for holding the AC adapter cable and USB cable. Attach the clips to the rear of the pillar as illustrated.
5. Assembly Instructions

1. List of Components
   - 1. Base (fully assembled and pre-wired to display assembly)
   - 2. Cable (Base side)
   - 3. Lower Pillar Assembly
   - 4. Screw
   - 5. Cable (Top Head Display Assembly Side)
   - 6. Top Head Display Assembly (fully assembled and pre-wired to base)
   - 7. Back Cover
   - 8. Front Cover
   - 9. Top Height Rod Assembly (fully assembled with pivoting height measuring lever)
   - 10. Height Rod Arm
   - 11. Lower Height Rod Assembly
   - 12. Handrail
   - 13. Brace

2. Assembly

1) Install the Lower Pillar Assembly into the Base using the four (4) Screws while carefully avoiding pinching the cable. 
   *Tighten the screws completely.

2) Assemble the Top Head Display into the Lower Pillar assembly while carefully inserting the cable into Lower Pillar assembly and extending it the full length of the Lower Pillar.

3) Connect the Cable from the bottom of the lower pillar assembly to the cable on the base.

4) Place the Handrail on the Base.

5) Insert the tabs of the brace into the slot. Putting your weight on the handrail to adjust its position will facilitate insertion of the brace into the slot.
   Slide the brace completely to the end (Position mark).

6) Clamp the handrail to the brace using the four screws.
   *Tighten the screws completely.
5. Assembly Instructions (continued)

7) Place the Front Cover over the screws and fix it by inserting its pins into the holes. Be careful not to pinch the cable while performing this operation.

8) Insert the Back Cover.

9) Connect the top Height Rod Assembly and Lower Height Rod Assembly together.
   ① Connect both pillars completely. If unable to connect, go to step 2.
   ② Using the floor, push straight down on the upper pillar into the lower pillar.

CAUTION
- Do not grip the sliding height bar while pushing down on the upper pillar.
- Do not use a slippery floor surface.
- Use caution to avoid pinching fingers during assembly.

10) Insert the Height Rod Assembly into the Pillar.

6. Operation by AC adapter

AC adapter is much preferable when the scale will be used continuously.
1) Insert the AC adapter jack into the AC adapter inlet on the back side of display.
2) Plug the AC adapter into the outlet.

WARNING • In order to reduce the risk of electric shock, never insert or remove the power code with wet hands.

CAUTION • Do not grip the sliding height bar while pushing down on the upper pillar.
• Do not use a slippery floor surface.
• Use caution to avoid pinching fingers during assembly.

Note: To move the scale, hold the Top Head Display to pivot the scale on its wheels and move it tilted.

7. Operation by batteries

1) When the batteries start to run low, “Lo” appears on the display panel as a warning.
2) Pull up the battery case which located on top of display. All batteries should be immediately replaced with new ones at the same time.
   • Do not use a combination of alkaline and manganese batteries, as such an arrangement may result in equipment failure.
   • Rechargeable batteries are NOT recommended use.
3) Push down the battery case completely.

* Insert new batteries such that the negative terminals of the batteries are pushed up against the coils within the battery case.
8. Operation

1. Standard Weighing Procedures
   1) Turn on the power by pressing the ON key.
   2) After all the segments flash, [0.0lb/0.0kg] is displayed.
   3) The person to be weighed should still in the middle of the platform.
   4) The weight will be locked-in and displayed on the display. "(Hold)" sign will appear in the upper left corner of the display.
   5) The scale will automatically shut off in 30 seconds.

   Note: Do not press the key while standing on the scale, as accurate measurement will not be possible.

2. BMI Weighing
   1) Turn on the power by pressing the ON key.
   2) After all the segments flash, [0.0lb/0.0kg] is displayed.
   3) The person to be weighed should still in the middle of the platform.
   4) The weight will be locked-in and displayed on the display. "(Hold)" sign will appear in the upper left corner of the display.
   5) Press the BMI key (or ). The default height [5ft7.0in/170cm] will be displayed.
   6) Set the height with the key.
   7) Once the height and weight have been established, press the BMI key.

   The weight and BMI calculation will then be displayed.
   8) The scale will automatically shut off in 30 seconds.

3. Step on Function
   The scale will turn on automatically when the user steps onto the platform.

   Note:
   • If the weight is less than 22lb/10kg, the "Step-On" function will not work.
   • If person less than 22lb/10kg, press the key manually to turn on the scale.
   • If an item is placed on the scale while it is powered off, accurate measurement will not be possible and the Step on Function may not operate properly.
   • When measurement has been started using the Step on Function, installing or removing the AC adapter, cable or batteries while power is off may prevent accurate measurement. Perform measurement after having pressed the key and turned off the Step on Function.

4. Changing Measurement Units
   This function is used to change the measurement units on the display.

   e.g. When change the unit "lb" to "kg".
   Press the key. The measure shifts from "lb" to "kg" and the measurement units change.

   e.g. When change the unit "ft/in" to "cm/m".
   Press the key. The measure shifts from "ft/in" to "cm/m" and the measurement units change.
9. Measuring height procedure

The user should step on the platform without wearing shoes for accurate measurement.
Always have someone assist the user for accurate measurement.

1) Adjust the Height Rod Arm position before the user steps on the platform. Place hand on the Height Rod Arm.
If the subject is taller than 48" / 120 cm, pull the Height Rod Sliding Block and Height Rod Arm at the same time upward so that the arm is positioned higher than the subject’s head.
If the subject is shorter than 48" / 120 cm, move the Height Rod Arm down.

2) Gently lower the Height Rod Arm until the Height Rod Arm touches the very top of the user’s head.

3) Read the measurement.
If the subject is taller than 48" / 120 cm, read the number just above the top of the Upper Pillar Column (see example #1).
If the subject is shorter than 48" / 120 cm, read the number below the Height Rod Arm (see example #2).

10. Output data format

This section covers the exporting of data from the scale to an external device (e.g. PC) using a RS-232C and USB compliant signal.

- RS-232C and USB interface are for data OUTPUT ONLY!
- This scale is not capable of receiving instructions from an external device.

### Specifications

<table>
<thead>
<tr>
<th>Communications standard</th>
<th>EIA RS-232C compatible</th>
<th>USB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communications method</td>
<td>Asynchronous transaction</td>
<td></td>
</tr>
<tr>
<td>Signal speed</td>
<td>9600 baud</td>
<td></td>
</tr>
<tr>
<td>Data bit length</td>
<td>8 bits</td>
<td></td>
</tr>
<tr>
<td>Parity</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Stop bit</td>
<td>1 bit</td>
<td></td>
</tr>
<tr>
<td>Terminator</td>
<td>CR+LF</td>
<td></td>
</tr>
</tbody>
</table>

#### Note:
- An RS-232C connector (D sub 9-pin female) and USB connector (B-type 4-pin female) are located on the back of the display unit.
- Please provide your own cables as necessary as none are included.
- RS-232C: Straight D sub 9-pin (male) – D sub 9-pin (female)
- USB: A-type 4-pin (male) – B-type 4-pin (male)
- Select Switch: Please select which interface you would like to use
- To avoid danger of breaking or coming loose, you must hold the height rod arm securely.

#### Caution

If you want to use the USB output, you must install the necessary driver onto your PC, available to download from [http://www.tanita.com](http://www.tanita.com).

#### Signal Line Name and Connection Method

<table>
<thead>
<tr>
<th>Terminal no.</th>
<th>Signal name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>TXD</td>
</tr>
<tr>
<td>2</td>
<td>RXD</td>
</tr>
<tr>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>GND</td>
</tr>
<tr>
<td>6</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
</tr>
</tbody>
</table>

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Example #1: 58" (147.5 cm)
Example #2: 36.25" (92 cm)
### 11. Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>PH-740</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Weight Measurement</strong></td>
<td></td>
</tr>
<tr>
<td>Measurement System</td>
<td>Strain Gauge Load Cell</td>
</tr>
<tr>
<td>Maximum Capacity / Minimum Graduation</td>
<td>1000lb / 0.2lb</td>
</tr>
<tr>
<td>Range of Weight</td>
<td>450kg / 0.1kg</td>
</tr>
<tr>
<td><strong>Height Measurement</strong></td>
<td></td>
</tr>
<tr>
<td>Measurement System</td>
<td>Mechanical Height Rod</td>
</tr>
<tr>
<td>Range of Height</td>
<td>64cm - 214cm</td>
</tr>
<tr>
<td><strong>Input Items</strong></td>
<td></td>
</tr>
<tr>
<td>Range of Weight</td>
<td>28t - 80t 2in / 6.5m</td>
</tr>
<tr>
<td><strong>Output Items</strong></td>
<td></td>
</tr>
<tr>
<td>Display</td>
<td>1 Byte fixed</td>
</tr>
<tr>
<td>Height</td>
<td>61cm - 250cm 1cm increments</td>
</tr>
<tr>
<td><strong>Check Sum</strong></td>
<td>1 Byte fixed</td>
</tr>
<tr>
<td>BMI</td>
<td>0.1 increments</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>1 Byte fixed</td>
</tr>
<tr>
<td><strong>Height</strong></td>
<td>8Byte fixed</td>
</tr>
<tr>
<td><strong>BMI</strong></td>
<td>8Byte fixed</td>
</tr>
<tr>
<td><strong>Display</strong></td>
<td>8Byte fixed</td>
</tr>
<tr>
<td><strong>Weight of Equipment</strong></td>
<td>64lb (without batteries)</td>
</tr>
<tr>
<td><strong>Battery Life</strong></td>
<td>Approximately 100 hours of continuous use when using LR6 (AA Alkaline battery)</td>
</tr>
</tbody>
</table>

### 12. Troubleshooting

If you are concerned that the scale may not be functioning correctly, please check the following point before requesting repairs.

#### Problem | Check Points
--- | ---
Nothing is displayed when key is pressed. | • Check that all feet of scale are stable and on a hard flat surface, carpeting depth should be kept to a minimum.
• After having stepped down from the scale and pressed the key, perform the measurement again.

Measurement is not accurate. | • Check whether the cable between the platform and display is disconnected, cut, or pinched.

The weight does not stabilize | • Check the connection of the AC adapter plug to the outlet.
• The batteries may be weak. Try an AC adapter or new LR6 (AA) batteries.
• Check the terminals of the batteries for contamination

"OL" is displayed. | • Check that all feet of scale are stable and on a hard flat surface, carpeting depth should be kept to a minimum.
• After having stepped down from the scale and pressed the key, perform the measurement again.

The Top Head Display Assembly is loose. | • Are you moving during measurement?
• Is the measured weight within the range of weight measurement?
• During measurement, are you touching any part other than the handrail, such as the height rod arm, switch, or another part?

"OL" is displayed. | • Are you moving during measurement?
• Is the measured weight within the range of weight measurement?
• During measurement, are you touching any part other than the handrail, such as the height rod arm, switch, or another part?

"OL" is displayed. | • The range of weight (1000lb / 450kg) is exceeded.

"OL" is displayed. | • Was anything placed on the scale before measurement?

"OL" is displayed. | • Check whether the cable between the platform and display is disconnected, cut, or pinched.

"Error" is displayed. | • Are you moving during measurement?
• Is the measured weight within the range of weight measurement?
• During measurement, are you touching any part other than the handrail, such as the height rod arm, switch, or another part?

"Error" is displayed. | • Check whether the cable between the platform and display is disconnected, cut, or pinched.

"Error" is displayed. | • Are you moving during measurement?
• Is the measured weight within the range of weight measurement?
• During measurement, are you touching any part other than the handrail, such as the height rod arm, switch, or another part?
USA and Canada
Federal Communications Commission and Canadian ICES Notice
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules and Canadian ICES-003. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
• Reorient or relocate the receiving antenna.
• Increase the separation between the equipment and receiver.
• Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
• Consult the dealer or an experienced radio or television technician for help.

Modifications
The FCC requires the user to be notified that any changes or modifications made to this device that are not expressly approved by Tanita Corporation may void the user’s authority to operate the equipment.