



MRB SERIES

Mid-Resolution Balance



MRB 500 / MRB 1200 / MRB 2500 / MRB 6000 / MRB 10000

Operating Manual

Professional Weighing Equipment

NOTE: THIS PRODUCT HAS BEEN FACTORY CALIBRATED. PLEASE
REFER TO THE MANUAL BEFORE RE-CALIBRATING PRODUCT!

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Declaration of Conformity

Declaration of conformity for apparatus with CE mark

We hereby declare that the product to which this declaration refers conforms to the following standards.

Electronic scale: MRB – Mid Resolution Balances

Model Selection

MRB 500

MRB 1200

MRB 2500

MRB 6000

MRB 10000

Mark Applied	EU Directive	Standards
	2004/108/EC	EN 61326-1: 2006

Signature:



Boon Lim, R & D Manager

Date: 14. 11. 2012

LW Measurements, LLC, 620 Carlson Court, Rohnert Park, CA 94928

Customer Service

USA

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Introduction

What you should know about this Operation Manual:

Tree® Professional Weighing Equipment products are simple to operate. Nevertheless, you should read through these operating instructions in their entirety, so that you can make optimum use of the full potential of the weighing scale in your daily work activities.

These operating instructions contain guidance in the form of pictograms and keyboard diagrams, which should help in finding the required information:

For the labeling of potential hazards, please refer to the safety proportion of this operation manual.

Safety

Representations & Symbols

Note: Important instructions which involve safety are highlighted with the appropriate mark:



Safety Recommendations

When using the weighing equipment in surroundings with increased safety requirements, the corresponding regulations must be observed.

The weighing scale may only be used with the power adapter supplied.

Before connecting the power adapter to the scale, the user must ensure that the operating voltage stated on the power adapter is compliant with the mains voltage. If not, please contact Customer Service at the address above.

If the power adapter or its cable is damaged, the weighing scale must immediately be disconnected from the electricity supply (unplug the power adapter).

If there should be any reason to believe that it is no longer safe to operate the scale, it should be immediately unplugged from the electricity supply (unplug power adapter) and secured against inadvertent operation.

During maintenance work, it is essential to follow the recommendations set out in maintenance and servicing.

The weighing scale must not be operated in an area subject to explosion risks.

Care must be taken when weighing liquids to ensure that no liquid is spilled inside of the scale, into connections on the rear of the equipment or the power adapter. If liquid is spilled on the scale, it must immediately be unplugged from the main electricity supply (unplug power adapter).

The weighing scale may be operated after it has first been inspected by a service technician.

These operating instructions must be read by each user and should always be easily accessible at the workplace.

Weight Scale

The weighing scale consists of the following parts.

1. The scale body
2. The scale-pan
3. The adapter
4. Operation manual



The MRB Series are high-quality electronic precision weighing scales designed to function as counting scales and check-weights with the following.

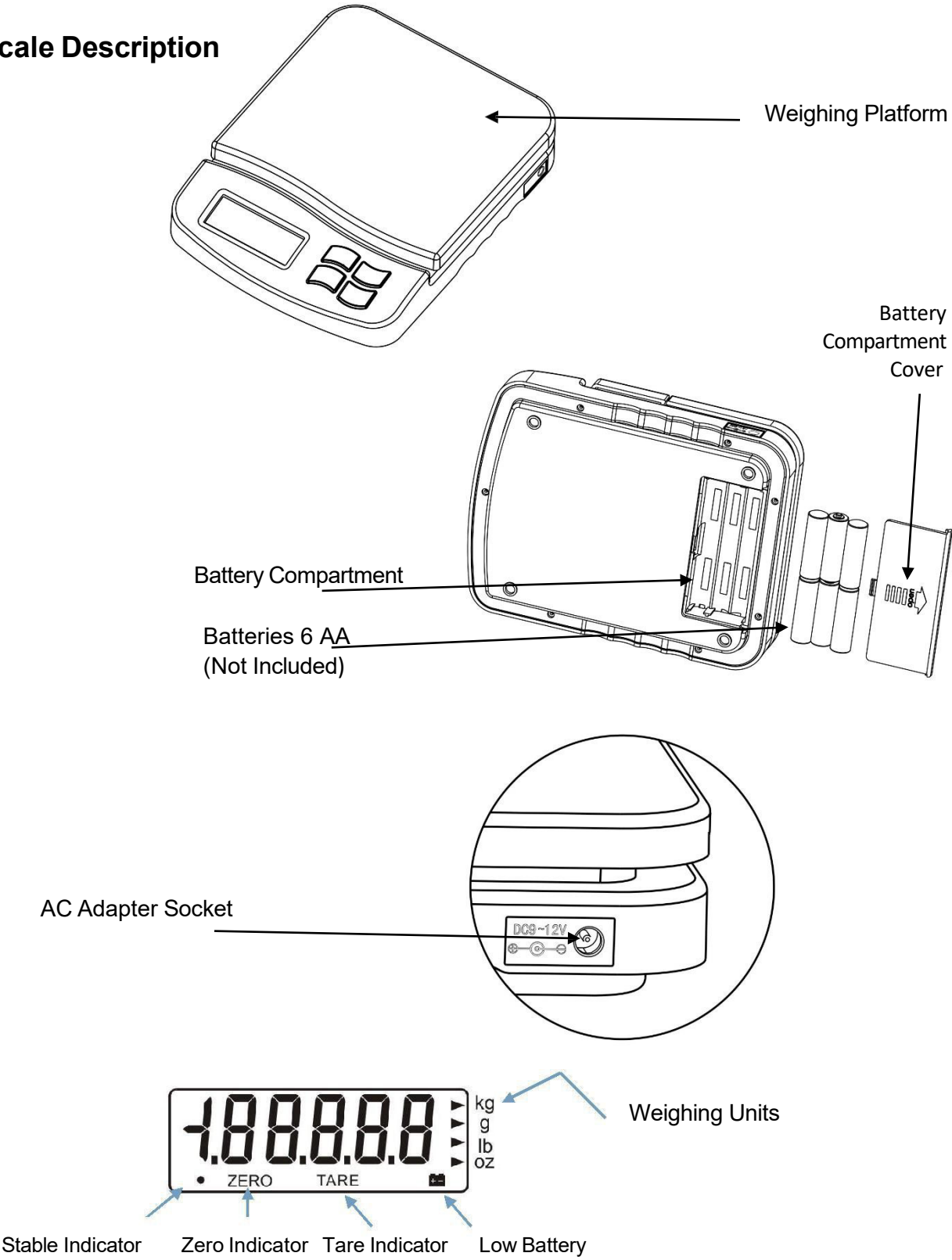
Specifications:

Model Number	Capacity	Division	Weighing Pan Size
MRB 500	500 g	0.1 g	6.25 x 7 inches
MRB 1200	1200 g	0.1 g	6.25 x 7 inches
MRB 2500	2500 g	0.1 g	6.25 x 7 inches
MRB 6000	6000 g	1 g	6.25 x 7 inches
MRB 10000	10000 g	1 g	6.25 x 7 inches
Package (Standard Carton)	12 x 9 x 4 inches		
Package (Master Carton)	12 units in one box: 24 x 19 x 13 inches		
Operating Temperature	0-40C°		
Power Source	6 x AA batteries or AC/DC Adapter 9V / 400mA		

Features

1. Auto back light
2. Auto shut off
3. Auto zero tracking
4. Bright backlit LCD
5. Large heavy gauge stainless steel square pan
6. Stability indication
7. AnyCal calibration
8. Unit switching kg, g, lb., oz, lb.: oz.
9. 1/2000~1/15000 division available

Scale Description



Application & Conformity

The following are instructions on how to correctly use the scale:

The scale may only be used for the weighing of solid materials and of liquids contained in secure containers.

The maximum capacity load of the weighing scale must be correctly entered in the scale program, otherwise the weighing scale may be damaged.

In using the scale in combination with other devices including those produced by other manufacturers, the appropriate regulations for the safe use of the relevant attachments and their application in accordance with instructions must be observed.

The scale has been manufactured and tested in accordance with the standards and recommendations set out in the declaration of conformity.

The power adapter supplied for the scale complies with the appropriate electrical protection class.

The following applies to the MRB series.

Power supply:

Input: 110V AC 50Hz to 60Hz Output: 6v 300mAh

Allowable ambient conditions:

Temperature: 32°F - 104°F / 5°C. 40°C

Relative humidity:

25% - 85%, non-condensing

NOTE: If you have any questions on the technical data or require detailed technical information on your balance, please contact your technical representative.

Getting Started

The scale is packaged in an environmentally friendly carton, which provides optimum protection for scale during transportation.

We suggest that you keep the original packaging to avoid damage if you are shipping or transporting the scale to a different location. It is also the best way to keep it in the best condition if it will not be used for an extended period.

To avoid damage, please follow the instructions provided below, when unpacking the scale:

- Unpack the scale carefully.
- When outside temperatures are very low, the indicator should be stored for a couple hours in its box in a dry room at normal temperature. This prevents condensation from settling on the unit when opening the box.
- Check the scale immediately after unpacking for any external visual damage. If there is any damage to the scale, contact customer service immediately.
- If the scale is not to be used immediately after purchase, it should be stored in a dry place where fluctuations in temperature are low. (reference pg.18).
- Read through these operating instructions before you work with the unit and pay attention to the safety recommendations (reference Safety pg. 5).

Delivery

Inspect delivery for completeness immediately upon unpacking all components.

Checklist for complete delivery

Component	Present Yes / No
Scale	
Weighing pan	
Power adapter	
Operating manual	

Assembly & Installation

Connecting the AC Adapter

The following safety recommendations must be observed when connecting the balance:



The scale should only be connected to the mains voltage socket with the power adapter supplied. Before connecting the power adapter to the mains socket, check that the operating voltage stated on the power adapter complies with the local mains voltage.

If the operating voltage is not the same as the mains voltage, the power adapter must not be connected to the mains socket and contact customer service.

Placement of Scale

The location in which the scale is placed is very important for the scale to work to its full potential. Certain conditions can affect the capabilities of the scale, such as presence of air flow, variations in temperature, and direct sunlight. Please follow the recommendations given below when choosing a location to place your scale.

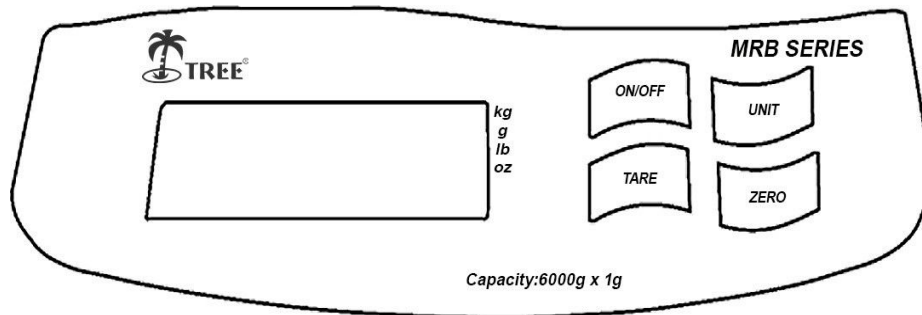
- Place the indicator on a solid, firm, and preferably vibration-proof surface.
- Make sure that the balance cannot be shaken or knocked over.
- Protect from direct solar radiation.
- Avoid drafts and excessive temperature fluctuations.
- Avoid placing the balance near or on any magnetic surfaces.

Key Functions

1.  (icon) key turns the indicator on or off.
2.  allows the user to **subtract the container value** and returns the display to zero.
3.  key sets display to zero or subtracts the container weight.
4.  key changes the weight units, kg, lb, oz.

Display Messages

- The **STABLE** icon indicates when the readings stabled.
- The **ZERO** icon indicates when the weights tared to zero.
- The **LO-BAT** icon indicates when running out of battery.



Function Settings

Auto Shutoff

- Press and hold  key then press  key to turn on the scale, the display will show **A-ON** or **A-OFF**, press  key to select (**A-ON** means auto power off function activate, **A-OFF** means auto power off function inactivate).

Backlight

- Press  key, the display will show **L-ON**, **L-OFF**, or **L-Au**, press  key to select (**L-ON** means auto backlight function is **active**, **L-OFF** means auto backlight function is **inactive**, **L-Au** means backlight under **auto** mode).

Calibration

Calibration is done in the factory. Don't recalibrate the machine unless it is not accurate. Calibration may be required when the weighing scale is initially installed or if the scale is moved a substantial distance from the original location. The weighing machine should be allowed to warm up for 10 minutes before calibration.

What you need:

1. Using a calibration or test weight that is **2/3** of the max capacity is strongly recommended for recalibration.
2. If you do not have a test weight or calibration weight. You can use any object of "known weight" to calibrate with our scales **AnyCal** Calibration software.

****NOTE: When calibrating even if you use a "known weight" the more exact the weight is the more precise the calibration will be. ****

Prepare for calibration by following these steps:

- When the scale is **OFF** press and hold **[UNIT]** key then press **[ON/OFF]** key. The display will show **CALu=**.
- Press **[UNIT]** key to select **calibration unit**.
- Press the **[Zero]** key to **initiate the calibration process**.
- Enter your calibration weight by using the **[UNIT]** key to **toggle between digits** and use the **[TARE]** key to **increase each digit** until the **display flashes** your test weight amount.
- Press the **[Zero]** key and the display will now show **CAL** then **AD value**.
- Then press the **[UNIT]** key and the display will show the **flashing calibration weight**.
- Place your **test weight** on the **platter**.
- The display **backlight lights up** and **returns to weighing mode**.
- **Calibration is complete**.
- **Turn off** the power, then **turn on** the power again, **place a known weight** on the platform to **verify** if it is accurate.
- If the weight displayed **does not correspond** with the value of the calibration weight, please **repeat the above steps**.

Maintenance & Service



DANGER

- For maintenance work, the balance must be disconnected from the power supply (remove power adapter plug from socket). Also, ensure that the balance cannot be connected to the power supply during the work by a third party.
- Make sure that no liquid spills into the scale while performing maintenance work. If liquid is spilled on the scale, it must be inspected by a service technician.
- **Regularly** maintain the weighing pan and the weighing pan holder by removing any dirt or dust from under the weighing pan and on the weighing scale housing. Use a soft brush or soft, lint-free cloth moistened with a mild soap solution.
- **Never** use solvents, acids, alkalis, paint thinners, scouring powders, or other aggressive or corrosive chemicals for cleaning; these substances can cause damage to the surfaces of the scale housing.

Transportation & Storage

Your weighing machine is a precision instrument, treat it carefully. Avoid shaking, severe impacts, and vibration during transportation. Make sure that there are no marked temperature fluctuations during transportation and that the weighing machine does not become damp (condensation).

If you would like to take the weighing machine out of service for an extended period, disconnect it from the electricity supply, clean it thoroughly (refer to Maintenance & Service) and store it in a place that meets the following conditions:

- No violent shaking or vibrations
- Minimum temperature fluctuations
- No direct solar radiation
- Minimum moisture

The weighing machine should preferably be dispatched and transported in the original packaging to avoid transportation damage.

CAUTIONS

- Only use the charger (adapter) supplied with the balance.
- Do not place the scale in direct sunlight, this may cause discoloration or malfunction. Avoid using the scale on carpeted surfaces, as this can result in inaccurate measurements and may require recalibration.
- Replace all batteries at the same time – Do not replace only a portion of the 6 batteries as this may cause a malfunction.
- If the scale will not be used for an extended period, remove all batteries from the battery compartment to prevent leakage and potential damage.
- Avoid overloading the scale, as this may cause permanent damage and void your warranty – NEVER exceed the maximum capacity of the scale.
- Keep the scale away from water. This device is not water-resistant. Using it in wet or damp environments may result in electric shock, injury, or equipment failure.

Troubleshooting

Error Code	Issue	Troubleshoot	Solution
ERR-O/0	Overload error	Turn scale off, then back on, and try weighing using weight under max capacity to verify loadcell still functions.	If scale still registers accurate weight refrain from continued over loading. If error continues loadcell may be damaged.
ERR-Z/2	Exceeded zero tracing range when powered on.	Turn scale off and clear weighing platform. Turn scale back on and attempt recalibration.	If scale was recalibrated successfully then error is resolved. If error persists, scale may need a linearity calibration or has a damaged loadcell.
ERR-S/5	Scale not stable when powered on.	Make sure scale is stable when powered on. Do not touch, shift, or place anything on the weighing platform until after the countdown.	If error persists, scale may need recalibration. If error continues after recalibration, then loadcell may be damaged.
ERR-C	Calibration weight was not entered during calibration	Enter calibration weight during calibration process.	If error persists, call support.
ERR-P	Counting set error	Place sample before entering counting settings.	If error persists, call support.
ERR-L	Calibration weight was not placed during calibration.	Be sure to place weight when recalibrating.	If error persists, call support.
ERR-E	Software issue	If error persists, call support.	If error persists, call support.
ERR-B/6	Low battery error	Attempt to charge battery.	If error persists, battery will need to be replaced. Make sure to not leave scale with rechargeable battery plugged in constantly.
<u>For any error that is not shown on this list or that persists after troubleshooting you will need to contact support.</u>			



Your support enables us to continue creating and providing high-quality products and services. We hope you enjoy your new scale and that it brings you as much satisfaction as it brings us to serve customers like you.

We would love to know what you think of our TREE products and your experience with us. If you have a chance, please visit www.lwmeasurements.com and leave a review.

Thank you for choosing LW Measurements family.

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U.S.

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