

JW SERIES

HIGH PRECISION BALANCE

OPERATION MANUAL

PLEASE READ THIS MANUAL VERY CAREFULLY
BEFORE ATTEMPTING TO OPERATE THE BALANCE

JANUARY 2005

*Specifications subject to change without prior
notice*

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CAUTIONS

1. This unit is legal for trade only when it is sealed (and/or stamped) and bearing a serial number. Do not attempt to break the seal (or stamp) affixed to this balance or remove the serial number. Contact your dealer for more information and for after sales service.
2. For most accurate weighing results, do not use this balance where or when the environmental conditions fall beyond those listed in **SPECIFICATIONS**.

Do not attempt to open this unit or conduct any troubleshooting other than those listed in **TROUBLE SHOOTING**.

1. INSTALLATION

1.1 Check and make sure that the following accessories are included:

Operation Manual x 1

Balance x 1

Plastic platter x 1

Stainless steel platter cover x 1

Protection cover x 1

Windshield x 1 (for JW-250 & JW-500 only
[JW-1000 optional])

Power adaptor x 1

Contact your dealer if any item is missing.

1.2 Insert the plastic platter into the balance carefully and secure with the screw provided before putting on the stainless steel cover. No excessive force is needed. Excessive force may damage the weighing sensor.

1.3 Power up the balance

a. Before charging the balance or powering up with the adaptor supplied, please make sure the input voltage listed on the back of the adaptor matches with the local voltage. If not, do not use it and contact your dealer immediately.

b. Before first time use, charge the balance for at least 8 hours to ensure the best performance.

SPECIFICATIONS

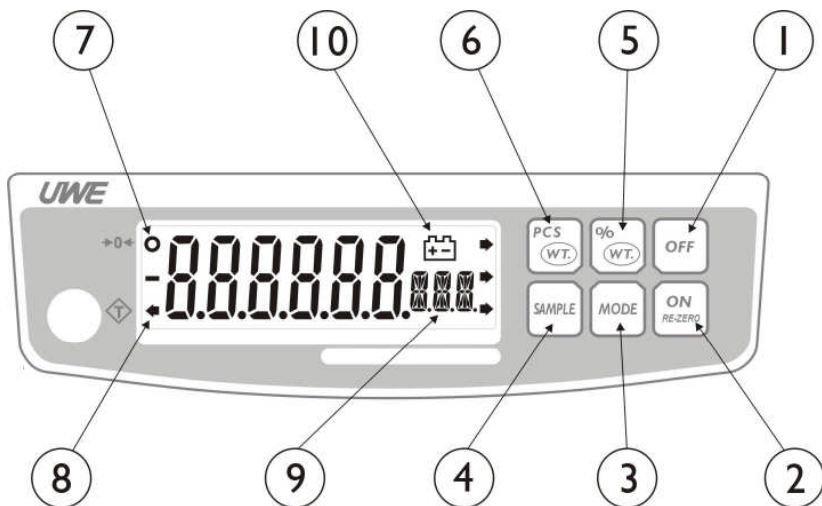
Model No.	Capacity (Max)	Division (e)
JW-250	250g	0.005g
JW-500	500g	0.01g
JW-1000	1000g	0.02g
JW-2500	2500g	0.05g
Tare Range	Full Tare Range	
Power-on Zero Range	Full Power-on Zero Range	
Zero Range	±2%	
Min. Load	20e	
Weighing Units NOTE A	Gram, ounce, pound, troy ounce, grain, penny weight, metric carat, momme, troy, tael, tola, dram	
Power Source	By Built-in Rechargeable Battery or AC/DC Power Adaptor	
Operating Environment	0°~40°C (32°~104°F), Non-condensed. R.H. ≤ 85%	

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NOTE A:

To comply with the law of certain countries, some of the weighing units may be disabled. Contact your dealer for more information.

3. KEYBOARD LAYOUT AND DESCRIPTION



1. OFF KEY

Press this key to turn scale off

2. ON/RE-ZERO KEY

Press this key to a) turn balance on or; b) act as tare key to set weight displayed to zero

Press and hold this key to turn backlight on and off

3. MODE KEY

Press this key to switch among the weighing units available during operation.

4. SAMPLE KEY

Press this key to sample the weight placed on the platter when engaging the counting function or percentage function

5. PERCENTAGE FUNCTION

Press this key to enter the percentage function

6. COUNTING FUNCTION

Press this key to enter the counting function or to move between count or weight display

7. ZERO INDICATOR

This indicator appears to indicate a zero weight status

8. NET INDICATOR

This indicator appears to indicate the tare function is in operation and weight displayed is net weight

9. MODE INDICATOR

This indicator shows current weight unit or operating mode engaged

"g" indicates the metric unit is being employed

"Pct" indicates percentage function is being employed

"PCS" indicates counting function is being employed

With the scale off, hold down **%/WT.** key and press **ON/RE-ZERO** to switch on the balance. This area will indicate the function engaged:

"F0" to set motion filter when at zero

"F1" to indicate the span value

"F2" to light up all the segments

"F3" to select weight unit

"F4" to set **Auto Power Off Function**

"F5" to set baud rate for RS-232

"F6" to set motion filter when weighing

10. LO-BAT INDICATOR

When this indicator appears, recharge the balance immediately. Failure to do so may cause unrecoverable damage to the rechargeable battery inside the balance

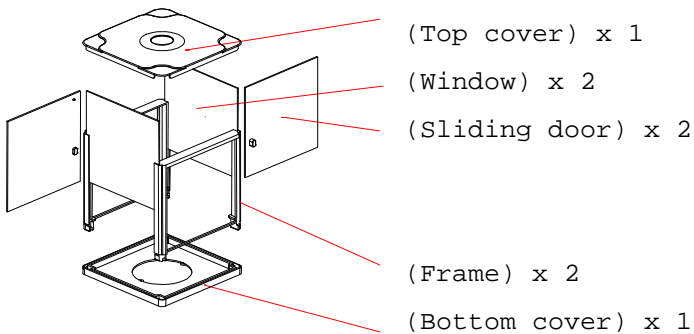
4. INITIAL SETUP

4.1.1 POSITIONING THE SCALE

In order to obtain an accurate weighing result, the balance must be placed on a strong and level surface.

If required, adjust the leveling feet underneath balance to obtain a level position. (Use the bubble level to assist with this)

4.1.2 SET UP WINDSHIELD



The windshield consists of 8 components as illustrated in the above drawing. If any items are missing, please contact your local distributor for assistance.

To set up the windshield, please follow the steps below:

- a. Slide the door sideways into one of the slots in the frames (door handle first as illustrated in the drawing) and click onto the bottom cover . The door should be able to slide in and out with the door stop and door handle acting as a retainer for the door
- b. Repeat the same procedure for the other sliding door and frame. Both frames with sliding doors should be securely fixed to the bottom cover now
- c. Remove the platter and place the incomplete windshield on the balance and fasten it with the screws provided
- d. Replace the platter gently
- e. Slide in the windows from the top for both sides of the balance

Put on the top cover to complete the windshield setup

4.2 INTERNAL SETTINGS

4.2.1 Set Zero Motion Filter

To ensure the best performance under a poor operating environment, the user can employ a motion filter when at zero. Follow the steps below.

- a. Turn balance off

Press and hold **%/WT.**, then press **ON/RE-ZERO**

- b. Balance displays the span value and **F.1**

Press **%/WT.** until the mode indicator displays **F.0**

Press **MODE** to select zero motion filter from 0 to

4. Motion filter is set at 0.5d apart:

-**Zero_0** for normal, in which any changes within 0.5d will remain at zero

-**Zero_4** for maximum effect, in which any changes within 2.5d will remain at zero

Press **%/WT.** to confirm setup

- c. Turn balance off and on again and use as normal

4.2.2 Select A Weight Unit

The balance is equipped with 10 weighing units. Follow the steps below to enable/disable these units.

- a. Turn balance off

- Press and hold **%/WT.**, then press **ON/RE-ZERO**
- b. Balance displays the span value and **F.1**
Press **%/WT.** until mode indicator shows **F.3**
Press **MODE** to select the weighing unit according to the mode indicator
- Press **PCS/WT.** to turn on or off the selected units
- c. To set the unit shown when the balance is powered on, press **SAMPLE** when at the selected unit
Press **%/WT.** to confirm setup
- d. Turn balance off and on again and use as normal

4.2.3 Set Auto Power Off Function

The balance is equipped with an **AUTO POWER OFF FUNCTION**. Under this function, the balance will switch off automatically if it is not used for 4 minutes. Follow the steps below to enable/disable this function.

- a. Turn balance off

Press and hold **%/WT.**, then press **ON/RE-ZERO**

b. Balance displays the span value and **F.1**
Press **%/WT.** until mode indicator shows **F.4**
Press **MODE** to shift between **0._OFF** and **30._OFF**
-To enable the **AUTO POWER OFF FUNCTION**, press **%/WT.** when **30._OFF** appears -To disable the **AUTO POWER OFF FUNCTION**, press **%/WT.** when **0._OFF** appears

- f. Press **%/WT.** to confirm setup
- g. Turn balance off and on again and use as normal

4.2.4 Select RS-232 Baud Rate (For Computer Connection Only)

This unit is equipped with 3 baud rates with default setting at 9600 and N.8.1. Follow the below steps to select the desired speed.

- a. Turn balance off
- b. Press and hold **%/WT.**, then press **ON/RE-ZERO**
- c. Balance displays the span value and **F.1**
- d. Press **%/WT.** until mode indicator shows **F.5**
- e. Press **MODE** to select among **br 48**, **br 96** or **br192**
- f. Press **%/WT.** to confirm setup
- g. Turn balance off and on again and use it as normal

4.2.5 Set Weighing Motion Filter

The weighing motion filter gives a more stable result when the operating environment is poor. Follow the steps below to set the motion filter.

- a. Turn balance off
- b. Press and hold **%/WT.**, then press **ON/RE-ZERO**
- c. Balance displays the span value and **F.1**
Press **%/WT.** until the mode indicator display **F.6**
- d. Press **MODE** to select zero motion filter from 0 to 4. **Filt_0** provides the least effect and **Filt_4** provides the maximum effect against poor

operating environments

Press **%/WT.** to confirm setup

e. Turn scale off and on again and use as normal

5. INSTRUCTIONS FOR USE

5.1 BEFORE WEIGHING

Make sure that:

- a. The platter is inserted correctly into the balance. The balance is placed on a level and strong surface.

Apply windshield if necessary.

- b. The balance is turned on.

The **ZERO INDICATOR** is on. If not, press **ON/RE-ZERO** to set display to zero. Refer to **SPECIFICATIONS** for maximum zero range.

5.2 WEIGHING

- a. Always place a load onto the platter gently. Excessive force or shock may cause damage to the sensor inside balance.
- b. The weight of the load will be displayed automatically.
- c. It is good practice to remove all loads from platter after weighing. It will prolong the lifetime of the sensor inside the balance.

5.3 SELECT WEIGHT UNIT

Press **MODE** to shift among different weighing units with or without backlight. Refer to **4.2.2** for internal setting procedures.

5.4 TURN BACKLIGHT (OPTIONAL) ON/OFF

Press **MODE** to shift among various weighing units (e.g. "g" without backlight or "g" with backlight) or press and hold **ON/RE-ZERO** to turn backlight on and off.

Even though the backlight function is employed, backlight will be turned off:

When a zero weight is detected and remains stable for 10 seconds, or

When a weight remains stable for 20 seconds

Backlight will be automatically turned on again when weight change is detected or a key is pressed.

5.5 SET DISPLAYED VALUE TO ZERO WHEN UNLOADED

Press **ON/RE-ZERO** to eliminate a positive or negative value. After **ON/RE-ZERO** is pressed, the **ZERO INDICATOR** will appear.

Refer to **SPECIFICATIONS** for maximum zero range.

5.6 TARE OFF THE WEIGHT OF A CONTAINER

When a container is used, follow the steps below to tare off the weight of the container and obtain a net weight status.

a. Remove all loads from the platter

Make sure that the **ZERO INDICATOR** is on

Place the container on the platter

Press **ON/RE-ZERO**

After **ON/RE-ZERO** is pressed, the **TARE INDICATOR** will appear.

Refer to **5.2** for weighing procedures. Weight displayed is the net weight of the subject matter.

Refer to **SPECIFICATIONS** for maximum tare range.

5.7 CLEAR THE TARE FUNCTION

Remove all loads from the platter then press **ON/RE-ZERO**. After **ON/RE-ZERO** is pressed, the **TARE INDICATOR** will disappear.

5.8 COUNTING

Press the **"PCS/WT"** key and the balance will display **"0PCS"**. Press the **"SAMPLE"** key and the balance will display

S= 20 and **"ADD"** will flash. Select the sample you wish to apply by pressing **"SAMPLE"** (**20, 50, 100, 200 or 500**)

Place items on the platter corresponding to the number shown in the display. The display will now show the sample size, e.g. **20 PCS**. Add more items to the platter and the display will show the total

count.

To change the item weight, repeat the above procedure.

To return to the weighing mode, press **"PCS/WT"**

5.9 PERCENTAGE MODE

Press the **"%/WT"** key and the balance will display **"0.0Pct"**. Press the **"SAMPLE"** key and the display will show **"P = 100.0 ADD"**. Put the sample (100%) on the platter and the balance will beep and display **"100.0Pct"**. The balance is now prepared for percentage weighing. Put an object on the platter and the display will record a percentage of the original sample. To return to the weighing mode, press **"PCS/WT"** twice.

5.10 RECHARGE THE BALANCE

When the **LO-BAT INDICATOR** appears, apply the power adaptor and recharge the balance immediately. Failure to do so may cause unrecoverable damage to the rechargeable battery inside the balance. The balance can remain in operation when being recharged.

6. TROUBLE SHOOTING

Symptom	Balance cannot be turned on
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Check: Is the balance charged?
Action: Recharge the balance for at least 8 hours before first time use or plug in the power adaptor before turning the balance on.

Check Is the power adaptor plugged properly into both the electrical outlet and the DC inlet of balance?

Action: Secure both ends of the power adaptor and try again.

Symptom **Balance displays 00000**

Check Is the load applied to platter in excess of the rated capacity of the balance?

Action Remove all loads from platter and try again.

Symptom **Balance displays 00000**

Check Is the platter inserted in the balance correctly?

Action Insert the platter into the balance correctly.

Symptom **Balance turns off automatically**

Check Is the **AUTO POWER OFF FUNCTION** employed?

Action Refer to **4.2.3** to disable the **AUTO POWER**

OFF FUNCTION.

Check Is the **LO-BAT INDICATOR** on?
Action Apply the power adaptor and recharge the balance immediately.

Symptom **Rated capacity cannot be reached**

Check Is the **TARE INDICATOR** on?

Action: Turn the balance off. Remove all loads from platter and turn on again.

Check Anything obstructing the platter?

Action Remove all obstacles.

Symptom **Weighing result is not accurate**

Check Is the balance positioned in a level condition?

Action Adjust the leveling feet to obtain a level condition.

Check Is the balance affected by airflow, vibration or RFI?

Action: Place the balance away from all disturbances and apply the wind shield.

Check Is the balance calibrated correctly?

Action Contact your dealer.

Check Is the correct weight unit employed?

Action Refer to **4.2.2** and **5.3** for weight unit setting and usage.

Symptom **BALANCE TURNED ON BUT ZERO WEIGHT
CANNOT BE ATTAINED**

Check Is the platter positioned correctly?

Action Remove the platter and insert it again.

Check Is any load applied to platter?

Action Remove all loads from platter.

Check Is the balance affected by air flow,
vibration or RF?

Action Position the balance away from all
disturbances and apply the windshield.

7. DAILY CARE AND MAINTENANCE

7.1 Clean the balance with a soft and damp cloth. If necessary, apply a mild detergent. Do not pour water onto the balance.

7.2 Do not use any harsh, abrasive material, acetone, volatile solvent, thinner or alcohol for cleaning.

7.3 Verify the accuracy of the balance periodically. Re-calibrate the balance if necessary.

NOTE: In some countries, calibration of the balance is restricted to authorized/qualified agents only. Contact your dealer for more information.

7.4 The balance must be placed in a horizontal position during transportation or long term storage.

7.5 Remove platter from balance before transportation or long term storage.

7.6 Store balance in a dry and clean place.