



# **Electronic Analytical Balance**

## **Model DWP-B2004**

### **USER MANUAL**

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# I Summary

This user manual is used for DWP-B series multifunction electronic balance.

Product characteristics:

- \* Adopt electromagnetic force balance sensor with high accuracy
- \* With sensitive reaction. Measure rapidly, weighing speed can be regulated
- \* High intelligent, easy to operate
- \* A variety of international common quality unit conversion function
- \* With functions of getting rid of tare, zero, counting, overload, underload display, fault alarm, etc.
- \* Build-in rs-232 serial port can connect external equipment such as computer and printer

<b>model</b>	DWP-B2004
<b>max metage</b>	200g
<b>Min metage</b>	0.0001g
<b>reproducibility</b>	±0.000 1g
<b>Linearity error</b>	±0.0003g
<b>Steady time</b>	≤8s
<b>Work temperature</b>	17.5°C–22.5°C
<b>Size of balance pan</b>	Φ 80mm
<b>Size of windproof cover</b>	225mm×220mm×265mm
<b>Dimension</b>	340mm×215mm×350mm
<b>weight</b>	7.2kg
<b>Power supply</b>	AC adapter

## II Setting

### 1、Open-package

Please open the packing carefully, take out of the balance and other articles lightly, conserve the packing material so as to reuse.

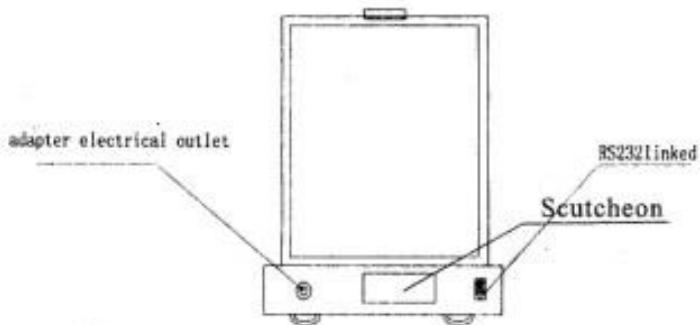
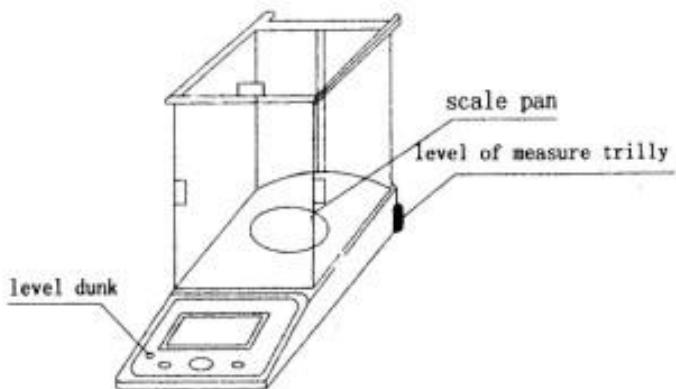
Products in the box:

- 1) Host balance
- 2) Balance pan
- 3) Power cord (AC adapter)
- 4) User manual
- 5) Certificate of quality
- 6) Maintenance card
- 7) Weight

### 2、Working condition

When DWP series multifunction electronic balance weighs under groovy lab or industry condition, it has the function of expediting metage and enhancing metage precision. If condition is not committed, the working condition should be chosen as follow:

- 1) The working room should be clean and dry.
- 2) The balance should put on the steady, fixative table.



- 2) The table had better put far away from the door and window in

order not to influence from airflow of opening or closing the door or window.

4)The table should put with less libration. The around of the room is the best place to put the balance since that place has little libration.

5)The balance should put where avoid shining and be far away from heating.

6) The balance should put far away from goods or equipment which has magnetism or bring magnetism.

7)Don't use the balance where is dangerous.

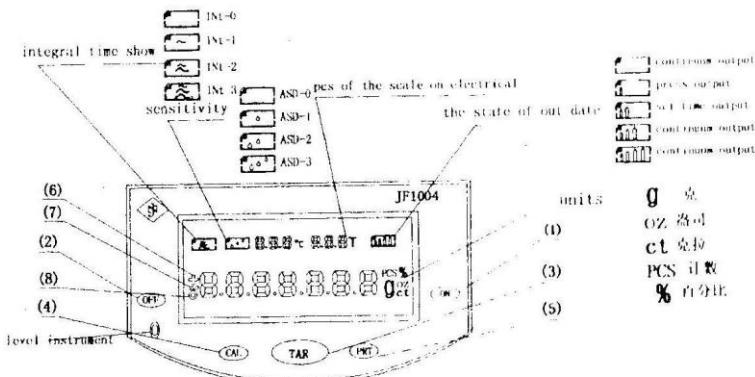
8) Don't use the balance under the condition of high wet and high dust for long time.

9)The best temperature for using the balance is  $20^{\circ}\text{C} \pm 5^{\circ}\text{C}$ . The best humidity is 50—60%RH.

10)When the balance moves from a colder place to a warmer place, moisture of air will coagulate inside the balance, result in influencing the balance definition and reliability. In order to eliminate the influence, is better to put the balance in the working place without power supply for 2 hours.

### 3. Setting

Open windproof cover and put balance pan in the balance. Insert external power supply wire BNC into the balance. and insert output BNC into the power supply again(voltage 220V), Wait for turning on the balance.



(1) on-key	(5) printing-key
(2) off-key	(6) positive sign
(3) getting rind of tare-key	(7) negative sign
(4) adjusting-key	(8) steady indication

### III Using

Before using the balance, put it horizontally. Use the screw at the base to adjust the balance levelly, make the air bubble in the middle of the circle of the level instrument, then press “ON” lightly.

#### 1. Adjust

DWP-B series electronic balance is made of “electronic magnetic force balance principle”. Among some of the factors which influence precision, gravity is the most prominent. Different zone, different gravity makes metage figures different. The south and the north will

make matage different. These errors could be eliminated by adjusting the balance.

In addition, when using the balance for a long time, little errors will appear because of circumstances such as temperature and humidity. These errors could also be eliminated by adjusting the balance.

Therefore, when using the balance for the first time or moving it from a place to another, adjusting is necessary.

## 2. Standard weight

Choose standard weight ad requirement according to different types:

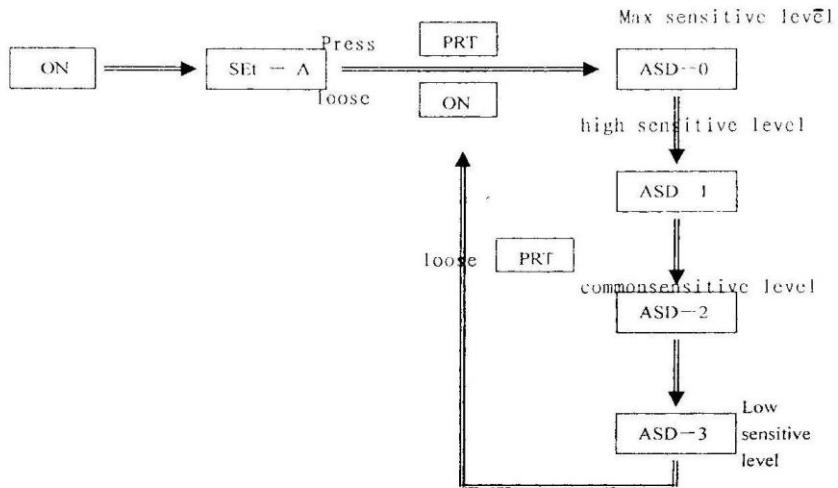
Types	weight
DWP-B2004	200g

## 3. Steps of adjusting

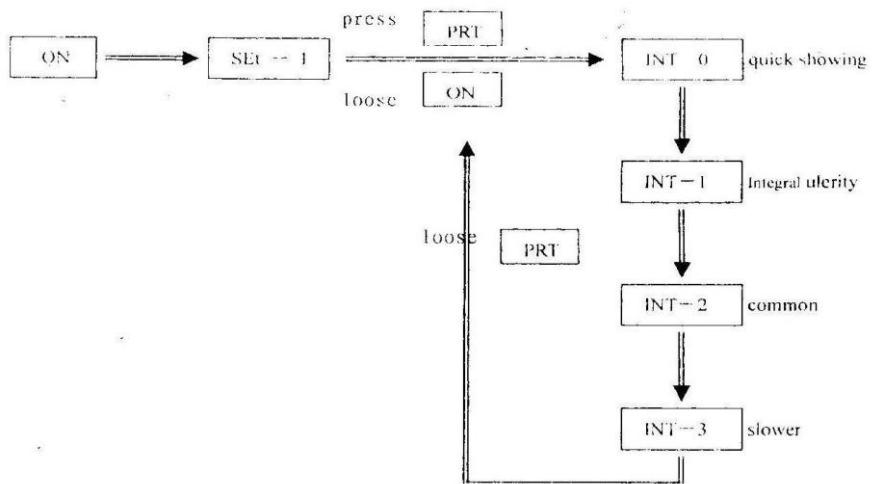
DWP-B series balance should warm up for two hours.

For example, nothing on the balance pan, press TAR. the display will show 0.0000g, then press CAL lightly and quickly, CAL-200 will appear, at that time put 200g standard weight on the balance pan, wait for some seconds, adjusting ends when “200.00g” appear.

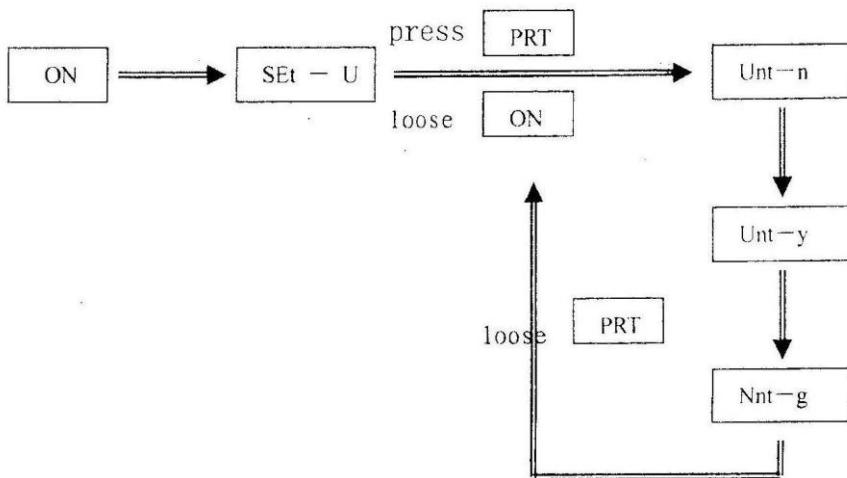
## IV choose sensitive level



V show speed



## VI transfer unit

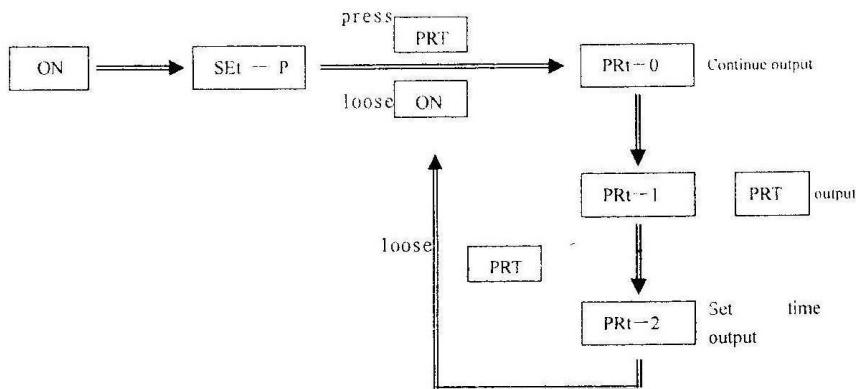


Procedures are as follows: Press [on] key after turn on stability, when display “SET-U” on the screen, press on [PRT] key, three kinds of unit conversion modes will appear successively on the screen. The user can choose one of them and press [TAR] key, unit conversion setting is finished.

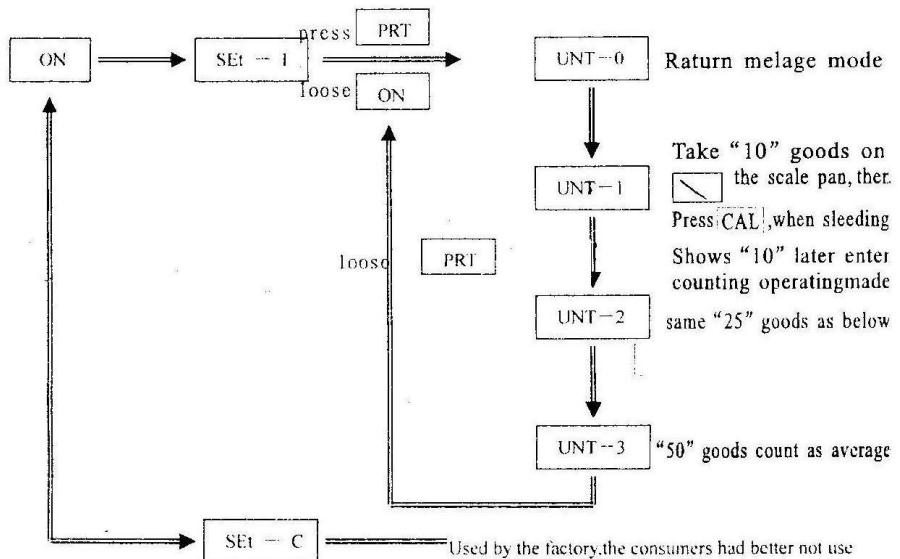
Explanation of three unit conversion modes:

- (UNT—1)-----g
- (UNT—2)-----ct
- (UNT—3)-----oz

## VII set figures output



## VIII function of counting



## IX output interface

1、 when the consumer is using the balance, sometimes metage date will get through external equipment such as computers and printers.

The ways of connection:

Electronic balance's connection interface as follow.

Balance (nine cores)      Microkit (nine cores)

RXD(Input) 2.....3

TXD(Output)3..... 2

GND(Earth)5.....5

2、 (1)Band rate of connection interface is 1200 bps;

(2)Format Of date is10 bits. Among them. One starting bit is(0), eight date bits(ASCII code, low bit at anterior),one stopping bit(1);

(3)N0 old and even numbers adjusting;

3、 Set output mode of balance's data:

Set auording to “PRT” which is in the users' manual. PRT-0 is constant output. Prt-1 is key stoke output, (press key PRT one time, one date comes), PTR-2 is time output.

Four Balance-order of data output as follow:

1	2	3	4
type	blank	blank	positive sign or negative
5	6	7	8
data	data	data	data or radix point
9	10	11	12
data or radix point	data	data	data
13	14	15	16
Unit one	Unit two	Carriage return	newline

# X Glitch and Eliminate

Glitch	Cause	Eliminate
no display	No power supply; Something wrong with fuse; Something wrong with electronic transformer;	Change power supply thread; Chang fuse; Change electronic transformer If bad again after change Please send to the maintenance apartment to repair;
showing figures unsteady	Work condition is not very good. Hasn't closed the preventing wind door; There is something between the balance pan and the preventing wind door; Electronic is not steady exceed permit tiguce, goods need to metage is not steady (such as vaporizing)	Improve working condition; Avoid libration and disturb of airflow close the preventing wind door; Take out the eye winker, turn the balance pan, prevent blowing and touching, connect 220V ac power supply manostat
showing figures different from fact figures	The balance hasn't been adjusted not turn to zero before metage; Not horizontal	Adjust the balance; Press "TARE" to zero; Use horizontal base to be level

## XI Maintenance

DWP-B series multifunctional electronic balance is exact intelligent measured instrument which connect machine and electricity. It's better to maintenance.

- 1) Don't use sharp-pointed matter (such as pencil and ball-point pen) to press
- 2) Just use hands.
- 3) Don't make goods from too high to the balance pan, in order not to
- 4) Damage the balance.
- 5) Don't explore the balance under high humidity and high acne.
- 6) After using the balance, it's better to use the mantle to prevent acne.
- 7) Keep the balance clean, dry.

Attention when cleaning the balance:

Before clean, pull out the power supply thread;

Don't use caustic cleanser (such as impregnant), just choose gentle cloth add some neuter scour to clear When clean, don't add water.

After clean, use a gentle cloth to wipe up.

## XII Guarantee to repair

The product which made by our corporation has one-year guarantee time. (just from the day you buy the product). In the guarantee time, the consumers has the right to

change or maintain without money. The unpuafie balance by taking the guarantee certificate or invoice.

The conditions follow except:

- 1、Exceed guarantee time.
- 2、Damage the balance by the consumers' faults.
- 3、Damage the balance since, the consumer don't operate according to the Users' manual.
- 4、Damage the balance since, it explored under the condition of emissive an caustic matter.
- 5、The consumers take apart and damage the balance without being allowed.

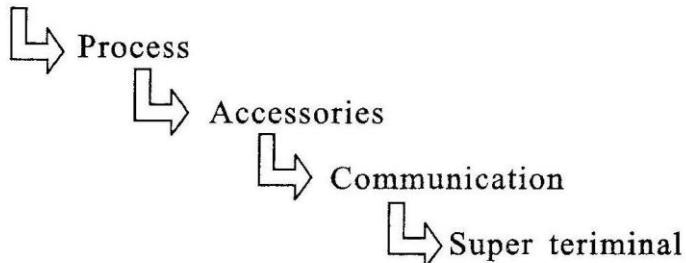
## Addenda

1、set box

Serial No.	comment	No
1	Host balance	1
2	Balance pan	1
3	Wind proof cover	1
4	fuse	1
5	External connect power supply	1
6	User manual	1
7	Maintenance certificate	1
8	Cleaning cloth	1

2、The balance connecting computers' step as follow:

1. Press "start"



2. Input name; choose ico, then press confirmation.
3. Ignore anterior columns, choose “(N) : com 1” ,press confirmation
4. Choose
  - 1) Baud rate: 1200 (or 2400 according to users' manual)
  - 2) Date bit: 8
  - 3) Check out of odd and even: NO
  - 4) Stop bit: 1
  - 5) Control of date stream: hardware

The press confirmation metage figure will appear on the screen of the computer.