

# **High Precision Balances**

**iBalance 601**

**iBalance M01**


**(LCD Display)**

**Operation Manual**

KD-TBCD-myweigh-en, V5.1-2006

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1. The balance must be in an exactly horizontal position in order to achieve accurate measurement results.
2. Please use an independent power outlet to avoid interference by other electrical appliances.
3. In order to bring the balance into a horizontal position, the adjustable feet are turned either clockwise or counter-clockwise until the air bubble is in the center of the marked circle.
4. Don't put any object on scale before powering on.
5. When possible please allow the scale to warm up for several minutes before operation.
6. Items should always be placed on the center of the platform when being weighed.
7. When the Power-LOW indicator "  " is shown on the top right corner of the screen means, the rechargeable sealed lead-acid battery need to be recharged.
8. Operating temperature range : 0°C ~ 40°C.
9. For optimum accuracy, recalibrate before each use.






#### IV. Specification

model	iBalance601	iBalanceM01
Maximum capacity	600g	1000g
Display scale interval (d)	0.01g	0.01g
Pan size	Ø116mm	Ø116mm
Power source	Rechargeable battery 6v/1.3Ah or 8.5v 0.2A AC/DC adaptor	

#### V. Explanation of display symbols





#### VI. Keypad functions



-  : ON/OFF power switch.
-  : For weight unit selection.
-  : This key is used for sampling & counting.
-  : This key is used to deduct the weight of an item or container. Press tare again to exit the tare mode (when empty).
-  : Zero key, press this key to return the display to zero if a small weight reading is left while unloaded/empty.

#### VII. Operations


##### ● Sampling

1. Press  key, the display will show "**Cnr10pcs**" (means sample size is 10 pcs)
2. Press the  key again and again, 10 · 20 · 50 · 100 pcs will




appear in succession. Stop at the one you want to use.

- Put the exact quantity of samples as desired on the pan and press , the determined sample size will be shown.
- Keep adding objects to be counted on the pan, the total number of the objects will be displayed. If the unit weight is too small (less than 0.8d) for the counting resolution, "Err PCS" will be shown. And then return to normal counting mode after 2s.
- In counting mode, press  key will turn to weighing mode.

#### ● **Weight units**

Press  key choose the needed unit, and the unit indicator will be shown. There are thirteen units—g, ct, oz, ozt, lb, dr, GN, dwt, MM, tl.J, tl.T, 1/8 ounce and 1/4 ounce.

#### ● **Tare function**

Put a container on the pan and press  when the display reading is stable. The tare weight will be stored into memory and display will be brought to zero. Indication "  " in the display will appear. The weight will be displayed as net weight. To cancel the tare mode, press  when no load on the weighing pan.

※ Tare range : Up to balance's maximum capacity.


#### ● **Zero function**

Press  key to return the display to the center of zero if

the zero Shifts during operation.

※ Zero range :  $\pm 5\%$  of max. capacity

### **VIII. Error messages**

When the display shows "  " it means that the balance is overloaded. Please remove the object from the pan immediately so as to avoid damage to the load sensor inside the balance.

#### **\*\*SPECIAL WARNING\*\***

Cell-Phones, Cordless-Phones, and any radio-frequency device can cause temporary interference and cause the scale to temporarily not work properly. Please do not use any electronic device near the scale. Just like in an Airplane, do not use your cell-phone near the scale when it is in use. While there is NO risk of permanent damage to the scale, interference can cause an incorrect calibration or incorrect weight readings.

### **IX. Data transmission – series RS-232 interface**

(only for communication )

- 0232C's UART signal
- Format
  - Baud rate : 1200 bps 2400 bps 4800bps 9600 bps
  - Data bits : 8 bits
  - Parity bit : none
  - Stop bit : 1 bit

(5) Code ASCII

#### DATA FORMAT :

HEAD1	HEAD2	DATA	UNIT	CR
1 2 3 4 5 6	7 8 9 10 11 12	13 14	15 16 17 18	19 20
HEAD1 (2BYTES)		HEAD2 (2BYTES)		

OL - overload

NT - net weight mode

ST - stable

US - unstable

#### DATA(8BYTE)

2D (HEX) = "-" (negative sign) 20 (HEX) = " " (blank)

2E (HEX) = "." (decimal point)

#### UNIT (4 byte)

g= 20 (HEX) ; 20 (HEX) ; 20 (HEX) ; 67 (HEX)

ct= 20 (HEX) ; 20 (HEX) ; 63 (HEX) ; 74 (HEX)

oz= 20 (HEX) ; 20 (HEX) ; 6F (HEX) ; 7A (HEX)

ozt= 20 (HEX) ; 6F (HEX) ; 7A (HEX) ; 74 (HEX)

CR= OA (HEX) ; OD (HEX)

#### Transmission example

1. Ex.: stable net + 0.168 g

HEAD	HEAD	DATA	UNIT	CR
ST	NT	+0.168	g	OA, OD

### X. Power Supply and Recharging the battery

#### Alternative Power Supplies

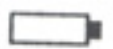
1. DC 6V/1.3Ah rechargeable sealed lead-acid battery.
2. 8.5V / 0.2A AC/DC power adaptor.

#### Consume Current

① In use (backlight off): About 40mA


② In use (backlight on): 90~100mA


#### Low voltage indication

When the Power-LOW indicator "  " is shown on the top right corner of the screen, the lead-acid battery should be recharged. The balance will automatically shut off when power voltage goes down to  $5.2V \pm 0.15V$ . Low voltage may also cause inaccuracy or instability.




### XI. Settings of parameters


#### ● Calibration

Press and hold  to power on till the end of self-test. The display will show "CA 0 g", then show the weight (unit: g) to be calibrated. Place the weight on the pan according to the display when a "di ...." is heard. The calibration is finished when "di..." is heard again.




**Note:** The weight placed on the pan is not correct if the display shows "  ".



#### ● Weight response speed and Division



Press and hold  to power on till the end of self-test. The display shows "nb0" or "nb1" or "nb2" or "nb3" or "nb4" or "nb5" or "nb6" or "nb7", then press the key  to select (nb0: the slowest, nb7: the fastest), press the key  to confirm, and the display shows the current division value, such



as "d 0.01", press  to select division value and press  to confirm.

### ● **Single-double range and unit setting**




Press and hold  to power on till the end of self-test. The display shows "Sln" or "dbL" (Sln: single range, dbL: double Range), press  to change/revolve and choose "Sln" or "dbL" and press  for confirmation.


Then display shows "On x" or "OFF x" ("x" is unit); "On" means "enable", "OFF" means "disable". There are fifteen units preset, press  to change/revolve and choose unit; press  for confirmation.

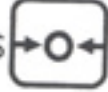


The display shows "init X" ("X" is unit), press  to change/revolve and choose initial unit; press  for confirmation.



The display shows "A.OFF X" ("x" is the auto power-off time; Time unit: minute; "0" means auto power-off disabled); In stable weighing status, the scale will auto power-off when the time achieved. press  to change/revolve and choose auto power-off time; press  for confirmation.

### ● **The range of zero track and zero display**

Press and hold  to power on till the end of self-test. The display shows "0.5d" or "1.0d" or "1.5d" or "2.0d" or "3.0d", press  to select the range of zero tracking, press  to

confirm. Then it will display "ZEr-S" or "ZEr-L", press  to select the zero display range (ZEr-S mean 0d, ZEr-L mean  $\pm 3.0$  d),

press  to confirm, then choose the baud. Press  to change/revolve and choose "bAUd12" or "bAUd24" or "bAUd48" or "bAUd96", press the  key for confirmation.

then start to select the Communication method by pressing the  Key (Co: send in succession; St: send steadily), press the  key for confirmation, then The scale will return to the normal weighing state.

## **XII. Table of unit conversions**

1 ct	[MET.CARAT]	=	0.2 g
1 lb	[AVOIRDUPOIS POUND]	=	453.59237 g
1 oz	[AVOIRDUPOIS OUNCE]	=	28.349523125 g
1 dr	[AVOIRDUPOIS DRAM]	=	1.7718451 g
1 GN	[GRAIN](U.K)	=	0.06479891 g
1 ozt	[TROY OUNTCE]	=	31.1034768 g
1 dwt	[PENNY WEIGHT]	=	1.55517384 g
1 MM	[MOMME] (JPN)	=	3.749996 g
1 tl.J	[HONG KONG JEWELRY Tael]	=	37.4290018 g
1 tl.T	[Tael](TWN)	=	37.49995 g
1 1/8	1/8 OUNCE	=	3.543690390625 g
1 1/4	1/4 OUNCE	=	7.08738078125 g