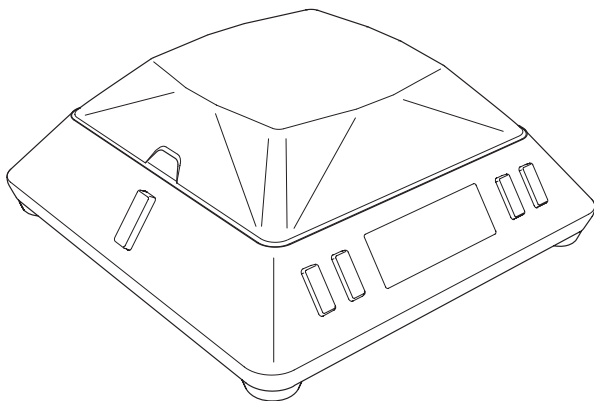


## DIGITAL CARAT SCALE

Model **KP-601**



- Eng** **Instruction Manual**  
Read this Instruction Manual carefully and keep for future reference.
- D** **Bedienungsanleitung**  
Lesen Sie sich diese Bedienungsanleitung bitte sorgfältig durch und bewahren Sie sie zum späteren Nachschlagen auf.
- F** **Notice d'utilisation**  
Veuillez lire avec attention cette Notice d'utilisation et la conserver pour de futures références.
- NL** **Gebruikershandleiding**  
Lees deze gebruikershandleiding aandachtig en bewaar hem voor naslagdoeleinden.
- I** **Manuale d'istruzione**  
Leggere questo manuale d'istruzione attentamente e conservarlo per riferimento futuro.
- E** **Manual de Instrucciones**  
Lea este manual de instrucciones cuidadosamente y guárdelo para una futura referencia.
- P** **Manual de Instruções**  
Leia este manual de instruções com atenção e o mantenha para referência futura.
- Ru** **Инструкция по эксплуатации**  
Внимательно прочтите данную инструкцию по эксплуатации и сохраните ее для будущих обращений.
- CT** **使用説明書**  
請詳細閱讀本說明書，並小心保存。



This device features radio interference suppression in compliance with valid EC Regulation 2004/108/EC.

---



Dieses Gerät ist funkenstört entsprechend der geltenden EG-Richtlinie 2004/108/EG.

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Cet appareil est conforme à la directive 2004/108/CE (compatibilité électromagnétique) en vigueur.

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Questo apparecchio è conforme alla normativa 2004/108/CE vigente in materia di radiodisturbi.

---



Este aparato tiene supresión antiparasitaria según la directiva CEE vigente 2004/108/CE.

---



Dit apparaat is storingvrij volgens de geldende EGG richtlijn 2004/108/EG.

---



Este aparelho caracteriza-se pela supressão de interferência a rádio, em cumprimento ao Regulamento 2004/108/CE da CE.

---



Данное устройство соответствует требованиям подавления радиопомех согласно действующей ЕС-директиве 2004/108/EC.

---



該產品符合EC REGULATION 2004/108/EC的要求。

---



Hinweis:  
Diese Zeichen finden  
Sie auf  
schadstoffhaltigen

Batterien:

**Pb** Pb = Batterie enthält Blei

**Cd** Cd = Batterie enthält Cadmium

**Hg** Hg = Batterie enthält Quecksilber

### **▲ Batterien dürfen nicht in den Hausmüll!**

Als Verbraucher sind Sie gesetzlich verpflichtet gebrauchte oder ausgelaufene Batterien zurückzugeben. Sie können Ihre alten Batterien bei den öffentlichen Sammelstellen, in Ihrer Stadt oder überall dort abgeben, wo Batterien der betreffenden Art verkauft werden, und speziell gekennzeichnete Sammelbehälter aufgestellt sind. Bei Verschrottung des Gerätes sind die Batterien zu entnehmen und müssen ebenfalls bei Sammelstellen abgegeben werden.

## CAUTIONS

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This scale is a precision instrument and must be used under certain conditions to ensure accurate measurement. Please observe the following when using this scale.

- 1. Never disassemble the unit.**
- 2. Use in a vibration-free location that is not exposed to direct sunlight.**
- 3. The scale will not measure accurately in an environment subject to large temperature and humidity changes. The unit takes approximately two hours to adjust to such changes.**
- 4. Keep water and chemicals off the scale. Wipe with a damp cloth from time to time.**
- 5. Do not use or store near heat sources (ovens, heaters, etc.).**
- 6. When not used for a long time, remove the batteries and store the unit in a dry, dust-free location.**
- 7. Check and replace batteries before sending the unit for repair. If repair is necessary, remove the batteries, repack the unit in the original carton and protect with packing materials before shipment.**
- 8. Do not leave objects on the weighing tray when the scale is not in use.**
- 9. To avoid measurement error, do not measure while using equipment that generates radio waves, such as mobile phones.**

## WARNING

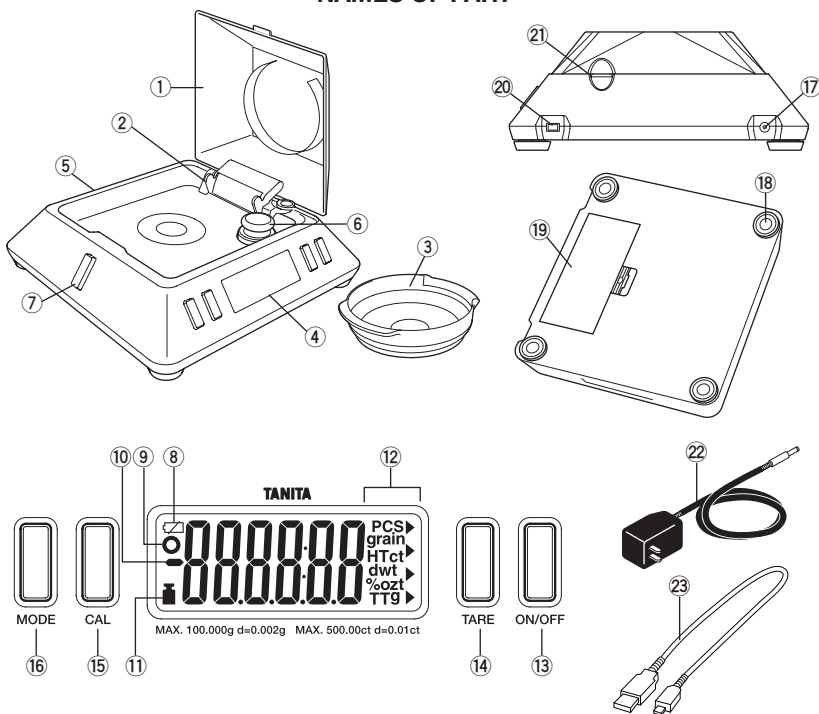
---

- 1. To avoid electric shock, do not insert or remove the plug with wet hands.**
- 2. To avoid electric shock, do not use the equipment near water.**

## IMPORTANT

1. Use on a hard flat surface confirming that it is level using the bubble level.
2. To prevent wind from affecting measurement, close cover.
3. Clean using mild detergent. Chemical should not be used.
4. Always use the provided Gem cup.
5. Wait about five minutes after turning the power on when calibrating.
6. When the display shows a big difference from the test weight after calibration, repeat the calibration several times.
7. Press TARE if the display doesn't read zero when you remove the object.
8. This scale can be affected by wind, vibration, and temperature changes. If the stable mark keeps blinking, please use in an area away from those.
9. Close the wind shield when the stable mark isn't displayed.

## NAMES OF PART



- |                              |                      |                       |
|------------------------------|----------------------|-----------------------|
| ① Wind shield (cover)        | ⑨ Stable mark        | ⑰ AC adaptor inlet    |
| ② Hinge                      | ⑩ Minus sign         | ⑱ Adjustable feet     |
| ③ Gem cup                    | ⑪ Calibration mark   | ⑲ Battery compartment |
| ④ LCD display (front)        | ⑫ Weighing modes     | ⑳ USB port (option)   |
| ⑤ LCD display (back, option) | ⑬ ON/OFF button      | ㉑ Level               |
| ⑥ Test weight                | ⑭ TARE button        | ㉒ AC adaptor (option) |
| ⑦ Open button                | ⑮ CALIBRATION button | ㉓ USB cable (option)  |
| ⑧ Lo battery mark            | ⑯ MODE button        |                       |

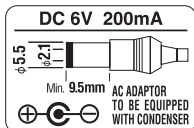
## BEFORE USE

### ◆ When using with batteries

1. Open the battery cover.
2. Remove the battery cover and insert 4 size AA (LR6) batteries.
3. Replace the battery cover.

### ◆ When using with AC adaptor

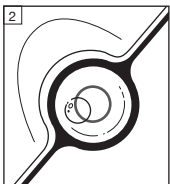
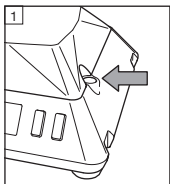
1. Do not use any AC adaptor except those with the following specification.



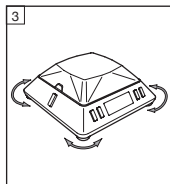
\*Only use an AC adaptor with a CE marking

2. To use AC adaptor, put the DC jack into the inlet.

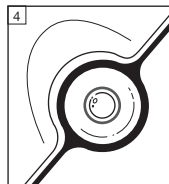
### ◆ Check the level to make sure that the scale is horizontal.



Adjust so that the bubble is the center circle.



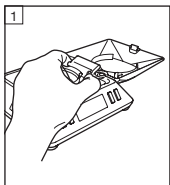
Adjust with the adjustable feet.



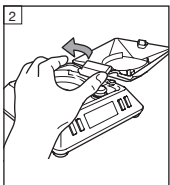
Note: Make sure all 4 feet make contact with surface.

### ◆ How to remove and attach the cover

#### [How to remove]

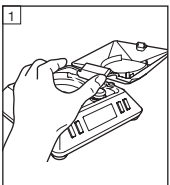


Push the hinge to one side.

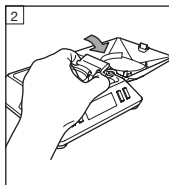


Twist and pull it up.

#### [How to attach]



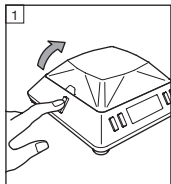
Insert one side of hinge.



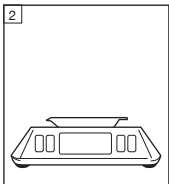
Twist and pull it down.

## CALIBRATING

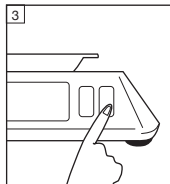
Use the provided 100 g test weight.



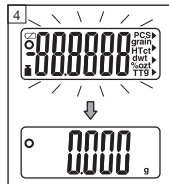
Press the open button to open the cover.



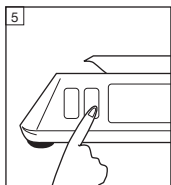
Set the Gem cup.



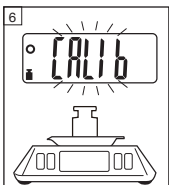
Turn the power on.



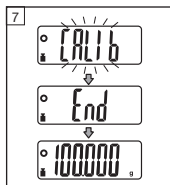
The weighting unit that was used when the power was turned off last time will be displayed. Default is g.



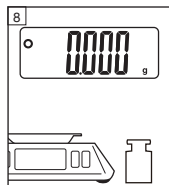
Press CAL.



When **CALIB** blinks, place the test weight gently onto the gem cup.



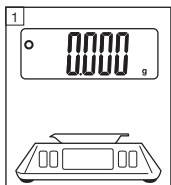
Calibration is complete. Calibration is not complete when not showing **End**. Make sure the stable mark is displayed.



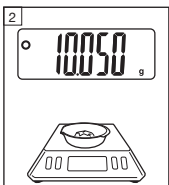
Remove the test weight.

**Er0000** or **Er0001** : See TROUBLE SHOOTING

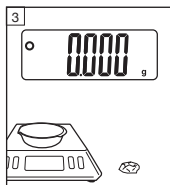
## WEIGHING



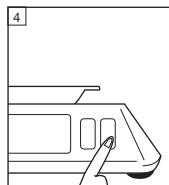
When the scale is on



Place the object.



Remove it.

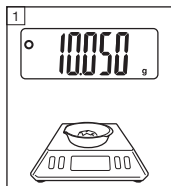


Press OFF.

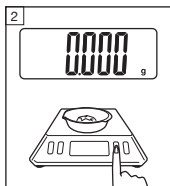
**EEEEEE** : Overload. The object being weighed exceeds the maximum capacity.

## TARE FUNCTION

If TARE is pressed in the middle of weighing, zero (0) appears in the display enabling additional weighing.



Place the object to be measured on the scale.



When the stable mark is on, press TARE.

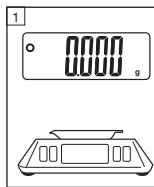
## SWITCHING UNIT

When the weighing function is available, press the MODE button and the display switches in the order below.

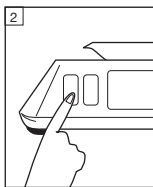
g → ct → oz → ozt → dwt → grain → HT → TT



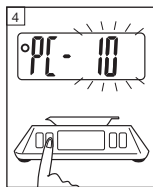
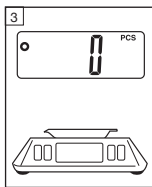
## COUNTING



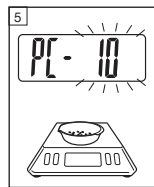
When the scale is on



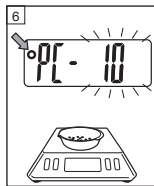
Press and hold MODE.



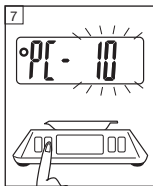
Press CAL.



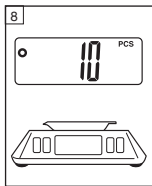
Place 10 specimens to be weighed.



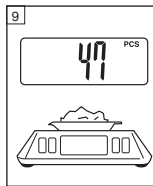
When stabilized, a stable mark is displayed.



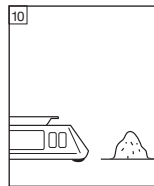
Press CAL.



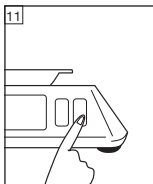
The number of specimens are displayed.



Place the number of objects that you wish to count.



Remove the objects after measurement is finished.



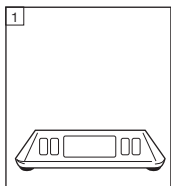
Press ON/OFF to turn off.

\* This scale might have an error within 1% margin when the specimen is too light.

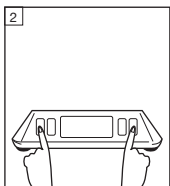
\* When the registered weight is insufficient, "PC-25" is displayed. In that case, increase the number of specimens to 25 pieces. When the stable mark is displayed, press CAL. If the register is still insufficient, the display changes to show the number of specimens to be increased. Therefore, increase the number of specimens, and press CAL again. This operation is repeated until the registered weight becomes 1 g or more. [L0] will be displayed when you press CAL if the registered weight is too low to measure. Numeric numbers change as follows. (Press TARE to increase the number of specimens)  
 10 → 25 → 50 → 100 → 150 → 200 → 250 → 500

## PROGRAMMING AUTO POWER OFF

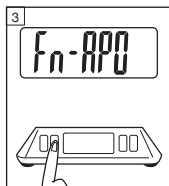
- ◆ Default setting is 10 minutes
- ◆ The auto power off time can be programmed between 0 (= no auto power off) to 60 minutes by 10 minutes increments according to preference.



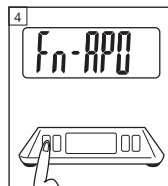
When the power is off



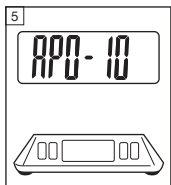
While pressing MODE press ON/OFF.



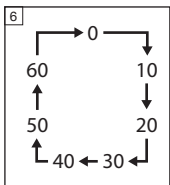
Press CAL to display [Fn-APPO].



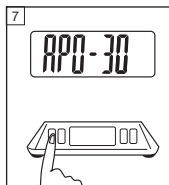
Press MODE to confirm



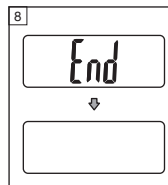
The numeric values are displayed.



Press TARE to cycle through the time options.



When you have made your selection, press MODE to confirm.



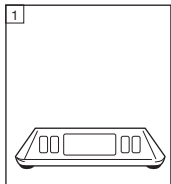
Setting is finished.

\*If the power turns off before [End] appears, the setting is not saved.

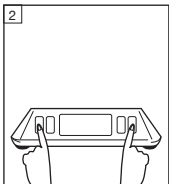


## PROGRAMMING BACKLIT BRIGHTNESS

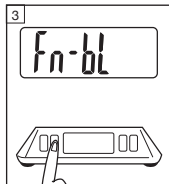
◆ Default setting is "2".



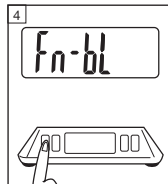
When the power is off



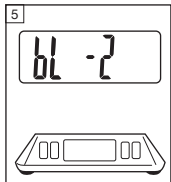
While pressing MODE press ON/OFF.



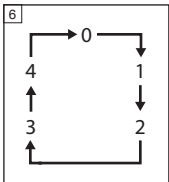
Press CAL to display  
Fn-bl



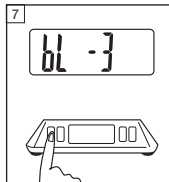
Press MODE to confirm.



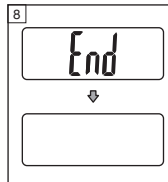
The numeric values are displayed.



Press the TARE to cycle through the backlit options.



When you have made your selection, press MODE to confirm.



Setting is finished.

## BATTERIES REPLACEMENT

When batteries are running low,  is displayed. When batteries are running out,  is displayed and the power is automatically turned off.

Immediately replace with new batteries (all 4 batteries). Do not apply excessive force to the measuring section when replacing batteries.

## TROUBLE SHOOTING


### • The power doesn't turn on.

Insert new 4 size AA (LR6) batteries. Be sure that the polarity of the batteries is set properly.

### • or appears on the display.


The scale needs to be repaired. Please contact your retailer.

### • appears on the display.

Place the test weight AFTER  blinks.

If it doesn't work, the scale needs to be repaired. Please contact your retailer.

### • appears on the display.

Place the gem cup BEFORE  blinks and do not remove it until calibration is complete.

If it doesn't work, the scale needs to be repaired. Please contact your retailer.

## TECHNICAL SPECIFICATIONS

Test weight	100 g (included)
Capacity	100.000 g / 500.00 ct / 3.5273 oz / 3.2150 ozt / 64.300 dwt / 1543.25 grain / 2.6717 HT / 2.6666 TT
Graduation	0.002 g / 0.01 ct / 0.0001 oz / 0.0001 ozt / 0.002 dwt / 0.05 grain / 0.0001 HT / 0.0001 TT
Power	DC 6V AA (LR06) x 4 (included) AC adaptor (DC 6V 200 mA) (Option)
Power Consumption (MAX)	Dual LCD: 45 mA, single LCD: 40 mA

\*Not legal for trade

## OUTPUT DATA FORMAT (USB version only)

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

- USB interface is for data OUTPUT ONLY!
- This scale is not capable of receiving instructions from an external device.
- This scale will only output data from 0.04g to 100.00g.

### Specifications

Communications standard	USB
Communications method	Asynchronous transaction
Signal speed	9600 baud
Data bit length	8 bits
Parity	None
Stop bit	1 bit
Terminator	CR+LF

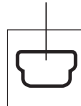
Note:

- USB connector (mini-B-type 4-pin female) is located on the side of the scale.

### 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>

USB Port



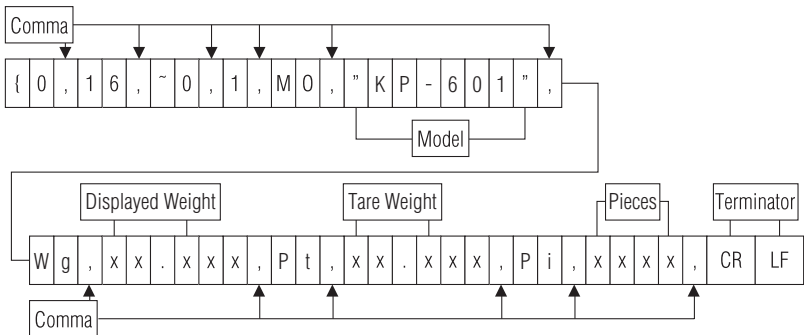
## Output data

Name of item	Header	Output data (ASCII code)		Pattern	
				Counting mode	Weight mode
Control data	{0	Fix to 16	2 Bytes fixed	✓	✓
Control data	0	Fix to 1	1 Bytes fixed	✓	✓
Model	MO	"KP-601"	8 Bytes fixed	✓	✓
Displayed weight	Wg	x.xxx ~ xxx.xxx	5-7 bytes	✓	✓
Tare weight	Pt	x.xxx ~ xxx.xxx	5-7 bytes	✓	✓
Pieces	Pi	xxxx	1-5 bytes	✓	—

Note:

- The data are divided with commas (,) for each data.
- The terminator (end of the data) is CR (ASCII code 0DH), LF (ASCII code 0AH).
- The control data for the items 1-2 are for expansion. They are not used presently so the receiving side can ignore them.
- Because of its specifications, the scale will output an irrelevant signal when it's turned off. Make sure you ignore this signal and do not import it.
- The weight data are shown only in grams.

### [Output data]



# 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

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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.

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