



FB-510 / FB-610

High Resolution Pricing Scale

User Manual

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Thank you for purchasing EXCELL High Resolution Pricing Scale. To guide you to use our product correctly, please read the user manual carefully to avoid mis-operating this product.

Instructions for Use

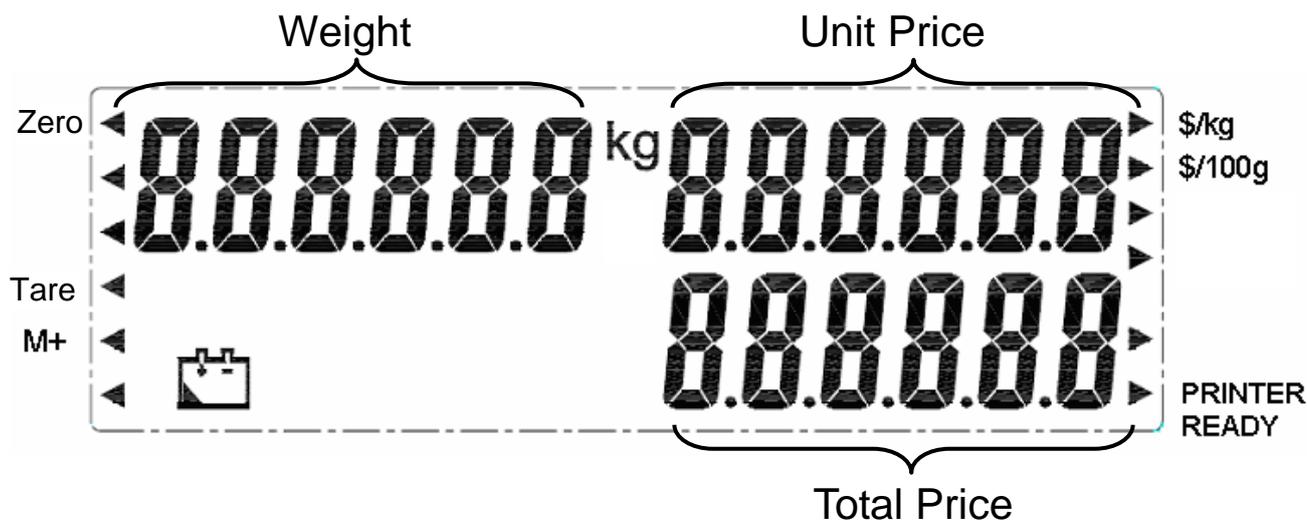
1. The scale should not be put in the rain or washed by water. (If it gets wet carelessly, please wipe it dry with a cloth. If its operation is abnormal, please send it to your supplier.)
2. Do not store at high temperatures or damp places.
3. Please keep the scale clean and free from insect infestation.
4. Avoid impacting with other items or overloaded with excessively heavy weights (The load must not exceed the maximum capacity of the scale).
5. If the scale is not going to be used for some time, please clean it and store it in a plastic bag in dry condition. A desiccant sachet may be included to prevent moisture build up. Please recharge the scale every three months. Please recharge the scale before using.
6. Commodity should be placed at the centre of platter when being weighed, and its size should not exceed the dimension of the platter.
7. Make sure dustproof cover is put on the scale to provide the dust and static electricity and fix it by double side tape.
8. Any suggestion is warmly welcome.

Preparing to Use the Scale

- Avoid hot sunshine directly on the scale or near the exhaust port of ventilating system.
- Please use a separate power source plug, to avoid the disturbance of other electric appliance.
- There should be no weight on the scale when power is turned on.
- Please note that when  symbol appears on the screen, the scale needs recharging.
- Please keep the scale switched on for 15~20 minutes before operation.



Chapter 1 Display Description



Digit Display

1. **Weight**
Show total weight with 6 digits and ahead to show negative numbers.
2. **Unit Price**
Show the unit price with 5 digits.
3. **Total Price**
Show the total price with 6 digits.

Indication Symbol “ ◀ ”

1. Zero : Zero Indication.
2. Tare : Tare Indication.
3. \$/kg : Pricing unit is “per kg”. (Except “Model:6kg”)
4. \$/100g : Pricing unit is “100g”.
5. M+ : Accumulation Indication.
6. PRINTER READY: Printer is ready.
7.  ⇒ Low battery Indication.



Chapter 2 Keypad Description

No.	Key	Description	
1	~	Number key	Set unit price and quantity.
2		Decimal point; pricing unit	Press this key one time to display “the decimal point”; press this key two times continually and number key “1,2” to select “pricing unit” function.
3		Unit price clear key	Press this key to clear initial price and then input new unit price. (If unit price have been input over 2 seconds, please input new unit price. The scale will clear initial unit price automatically.)

Recall Function

Press key to recall “total accumulation times” and “total accumulation price” when unit pricing shows “0”.

4		Quantity	Please input unit price, press and then input quantity. (The largest quantity is 999.) will display total price. Press to memorize total price. (For some commodity such as tins, etc.)
5		Plus sign	Input unit price and then press , total price will be memorized.
6		Accumulation	Press key, the total price will be memorized after the value of is stable. (For commodity priced by weight)

Accumulation Times

Press and to accumulate total times until 99 times.

7		Recall	Press to show all the data in the memory.
8		Accumulation Clear	Press to clear all accumulation data. The accumulation symbol“◀” disappears when accumulation data is in the memory.

Single Data Clear

Press key when show the single data. The single data will be cleared.

9		Change	Press , will show total price for trade. Please input the customers' amounts, will show the change.
10		Tare	Press to deduct the weight of container. The weight will display “◀”.
11		Zero	Zero function.
12	~		Preset unit price.
13		Feed Preset	(1). As feed function (2). As preset function in two seconds after inputting unit price.



Chapter 3 Operation Functions

3-1 Supplementary unit function

Generally speaking, pricing unit is kg when turning on the scale.
The pricing unit is 100g when the model is 6kg.

3-2 Backlight function (Optional)

Method 1

Auto Backlight

Press **[Z]**, the weight shows "— — — — —". Before it disappeared, put the objects on the scale and press **[4]**, the backlight will be turned on.

The backlight will be turned off in 5 seconds.

Cancel Backlight

Press **[Z]**, the weight shows "— — — — —". Before it disappeared, please press **[5]**.

Method 2

Press **[0]** for two seconds, the scale will change to backlight mode when the beeper sounds three times. ⇒ "Auto Backlight" or "Cancel Backlight".

The scale will memorize automatically the backlight mode. The same mode will be executed next time.

3-3 Select pricing unit

1. Press **[.]** two times, the display shows using pricing unit.



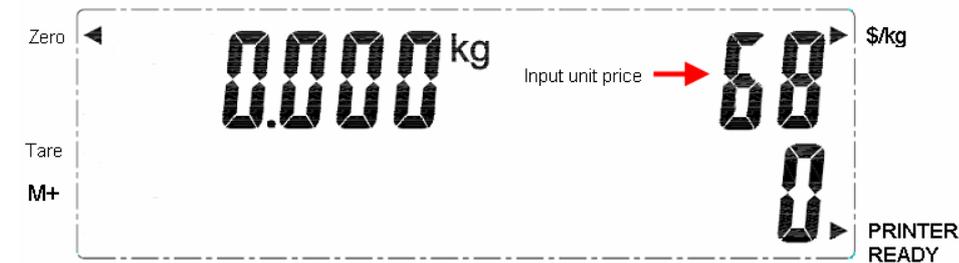
2. Select pricing unit by pressing **[1]** ~ **[2]**. The scale backs pricing mode. The symbol "◀" displays in **Unit Weight**.

1 ⇒ kg 2 ⇒ 100g



3-4 Pricing and accumulation by quantity

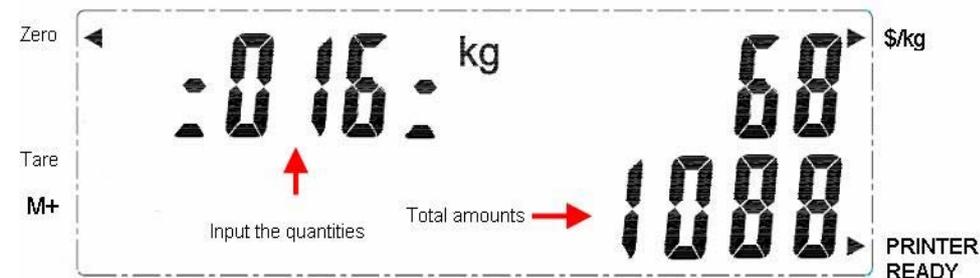
❶ Input unit price by number key for example as follow.



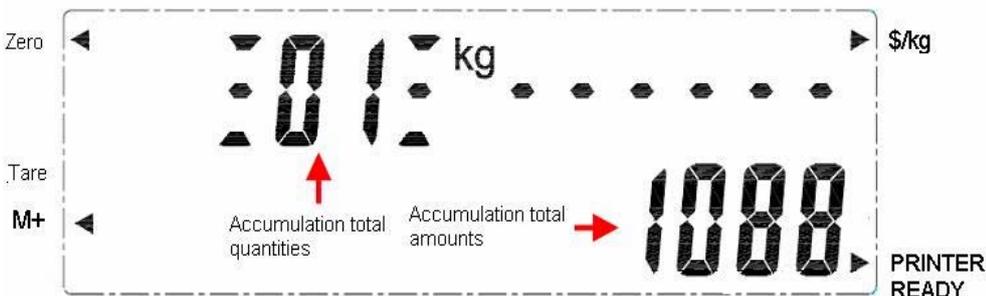
❷ Press **QTY**



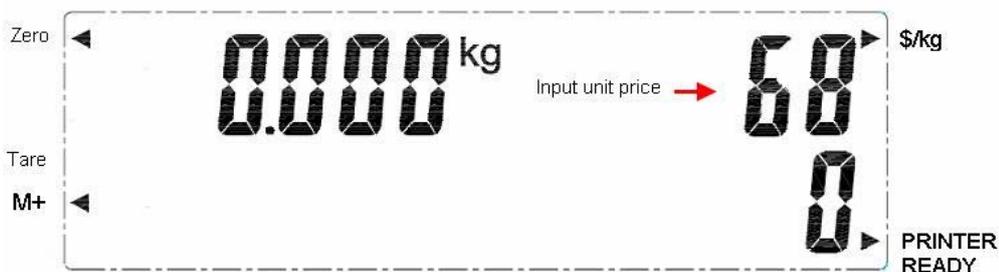
❸ Press number key to input quantity (the most is 999)



❹ Press **+**



❺ Press **CE** key, the scale will backward valuation mode.

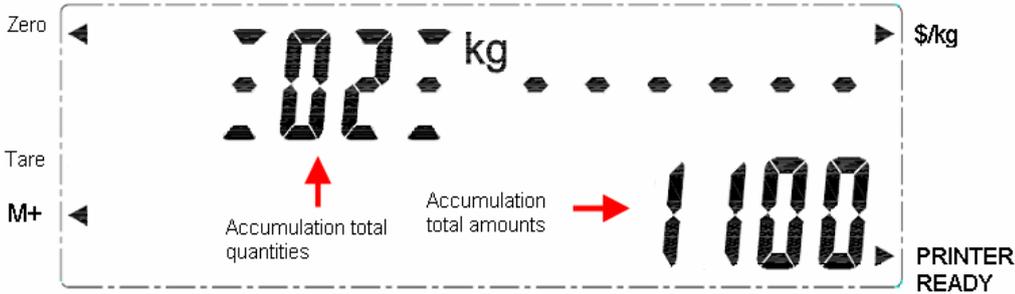




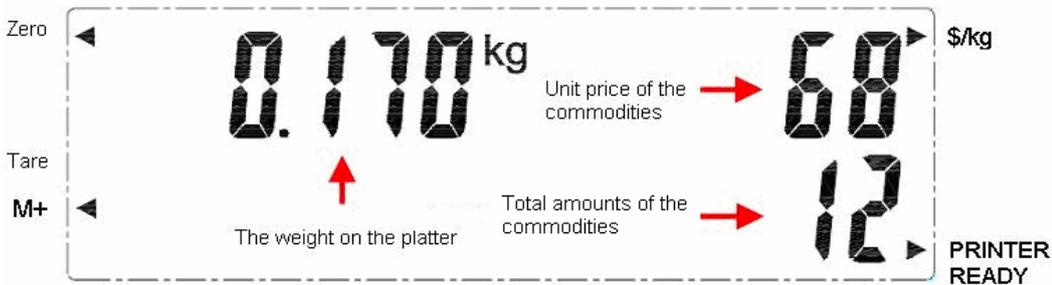
Accumulation total quantities ⇒ Press **M+** and **+** to accumulate total quantities until 99.

3-5 Accumulation of commodity priced by weight

❶ Put the commodity on the scale and input unit price and then press **M+**.



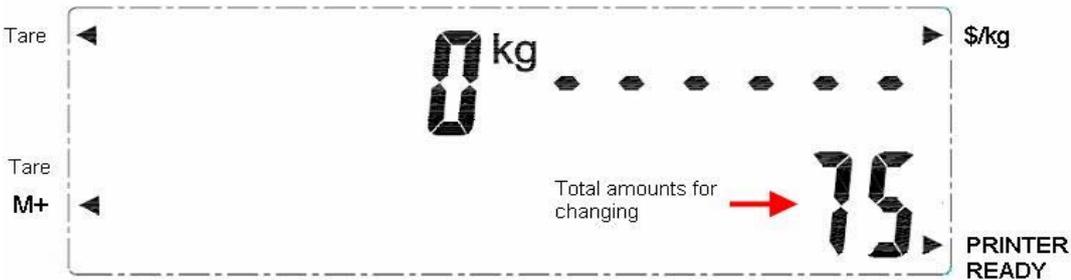
❷ Press **CE**, the scale backwards pricing mode.



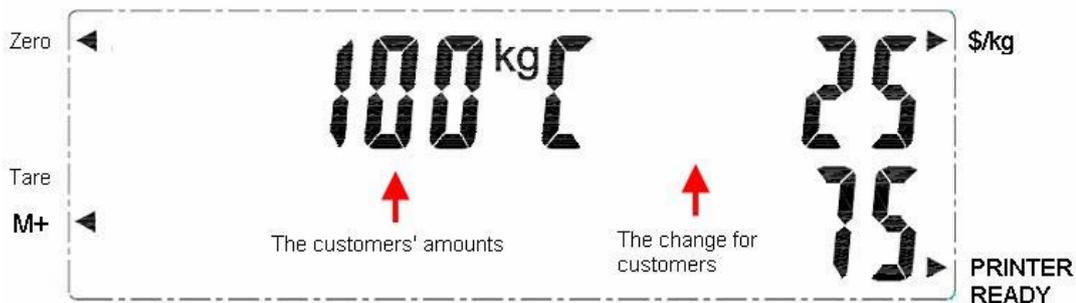
Accumulation total quantities ⇒ Press **M+** and **+** to accumulate total quantities until 99.

3-6 Change function

❶ Press **CH**



❷ Input the customers' amounts.





③ Press **CE**, the scale backwards pricing mode.

Zero ← 0.0000 kg → \$/kg
 Tare
 M+ ← Input unit price → 60
 0
 PRINTER READY

3-7 Accumulation re-call function

① Press **MR**

Zero ← -0.1- kg → \$/kg
 Tare
 M+ ← The first data → 60
 1000
 PRINTER READY

② After two seconds.

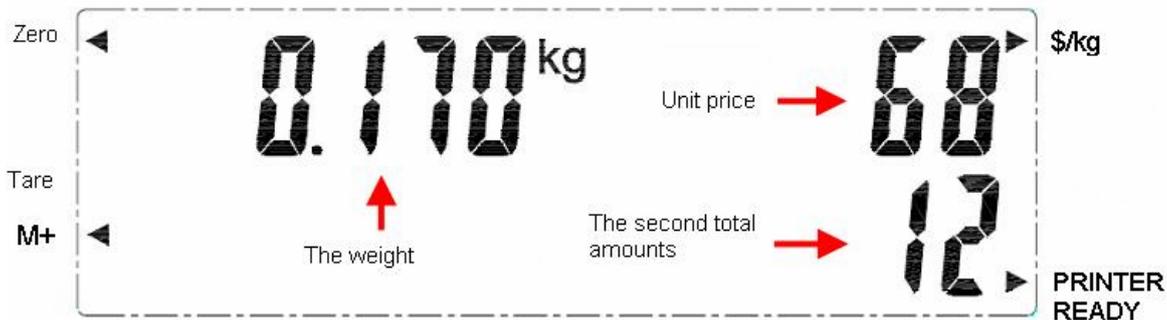
Zero ← :0.16: kg → \$/kg
 Tare
 M+ ← Unit price → 60
 The first total price → 1000
 PRINTER READY

③ Press **MR**

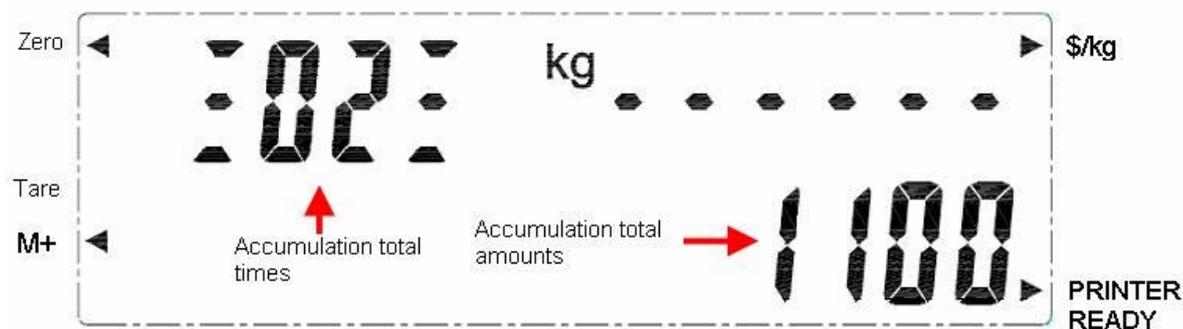
Zero ← -0.2- kg → \$/kg
 Tare
 M+ ← The second data → 60
 12
 PRINTER READY



④ After about two seconds.



⑤ Press **MR**



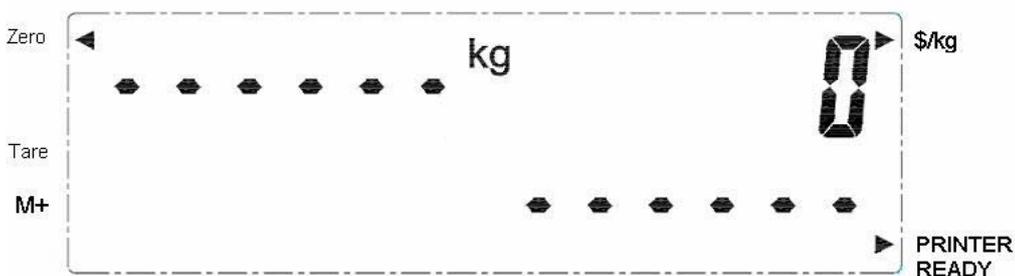
Press **MR** to show the last 99 times of accumulation data and accumulation total times in order.

3-8 Deduct the weight of container function

① Put the container on the platter.



② Press **T**

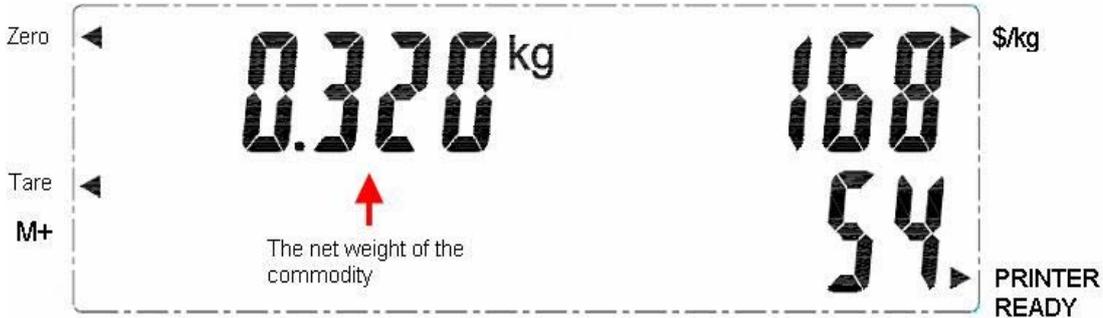




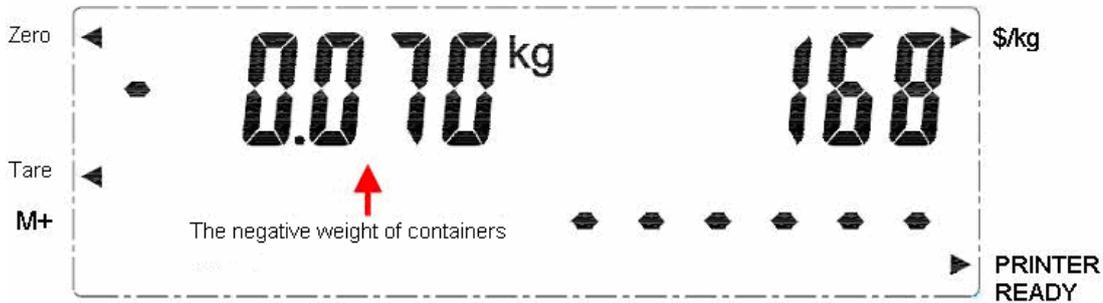
③ After the scale is stable.



④ Put the commodity into the containers and input the unit price.



⑤ Remove the commodity and containers.



⑥ Press **T** again, the scale backwards pricing mode after stabilization.





3-9 Preset unit price

❶ Input unit price.



❷ Input unit price and press **Feed PLU** in two seconds.



❸ Please choose one to save from **P1** to **P9** and then complete presetting when showing *PrESEt*.

❹ Press one key to use from **P1** to **P9** in weighing mode, it means taking out the preset unit price.

3-10 Feeding function of Mini Printer

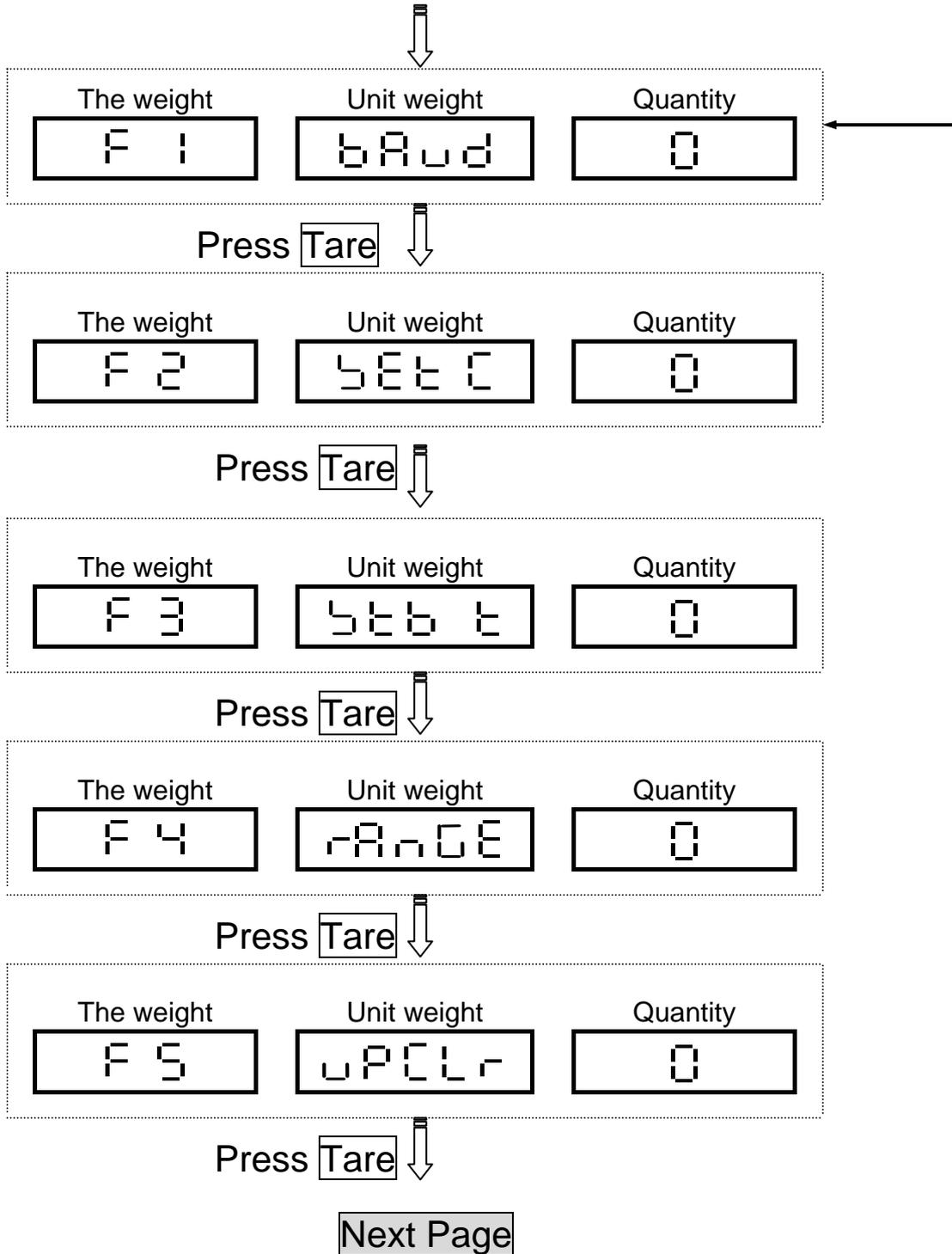
Press **Feed PLU** to feed.



Chapter 4 General Function Setting

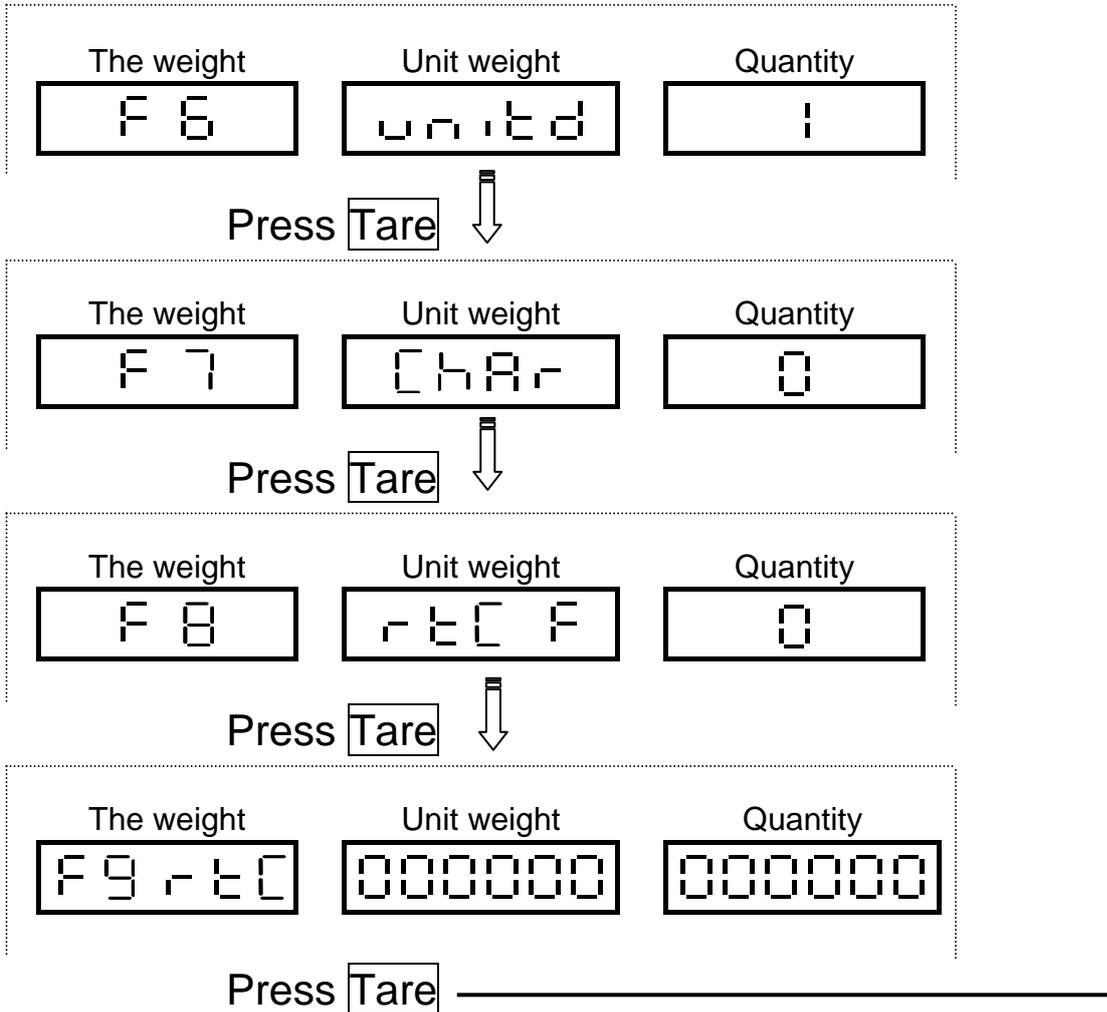
F1, F2, F7, F8 and F9 are not located in LOCK area. (Not remove LOCK to set).
F3, F4, F5 and F6 are located in LOCK area. (MINI JUMPER of SWA1 is connected to ADJ on PC board before setting. MINI JUMPER of SWA1 is connected to LOCK on PC board after setting.)

Press **MC** continually. Please power on to enter into function setting mode.

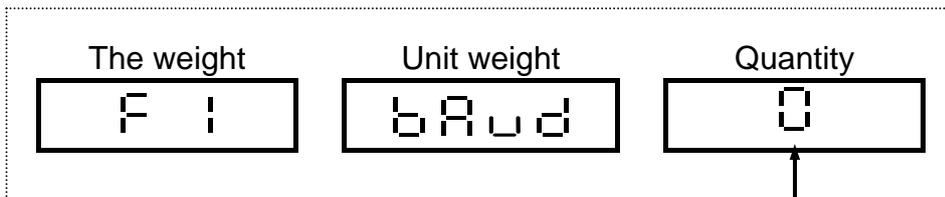




Last Page



4-1 F1 ⇒ RS-232 baud rate



Press number key **0**, **1**, **2**, **3** to choose 0,1,2,3 in order

- 0 ⇒ 9600 bits/second
- 1 ⇒ 4800 bits/second
- 2 ⇒ 2400 bits/second
- 3 ⇒ 1200 bits/second

Press **Tare** to go to next setting mode.

Press **M+** to save setting values. The scale will count backwards to zero and backward weighing mode from jumping out setting mode.

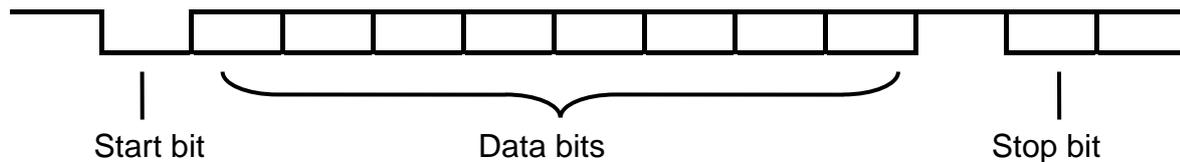


RS-232 Interface Format

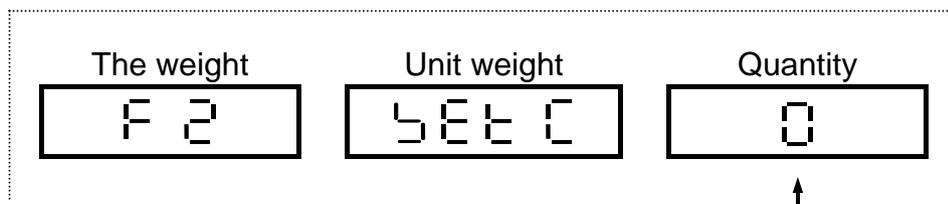
I . Mode : UART Signal of EIA-RS0232 C

II . Format :

- 1. Baud rate : 1 200, 2 400, 4 800, 9 600 bits/second
- 2. Data bits : 8 bits
- 3. Parity bit : None
- 4. Stop bits : 1 bit
- 5. Code : ASCII (Exchange code of American standard)



4-2 F2 ⇒ Transmission mode (RS-232 and Mini Printer)



Press number key **0**, **1**, **2**, **3** to choose 0,1,2,3 in order

- 0 ⇒ Press **M+** and **MC** to transmit RS-232 and Mini printer.
- 1 ⇒ Continuous transmission (only RS-232)
- 2 ⇒ Stable transmission (only RS-232)
- 3 ⇒ Power off RS-232 and Mini printer.

Press **Tare** to go to next setting mode.

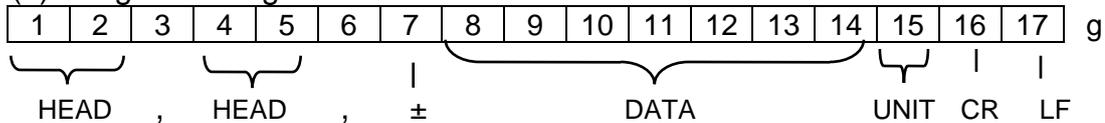
Press **M+** to save setting values. The scale will count backwards to zero and backward weighing mode from jumping out setting mode.



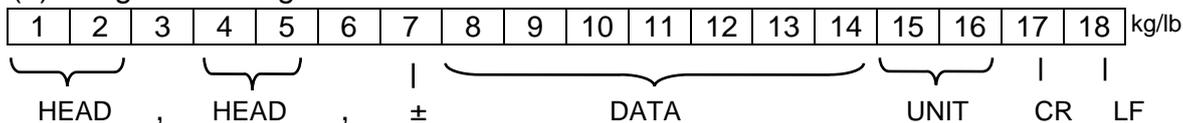
RS-232 Data Format

Stable transmission or Continuous transmission

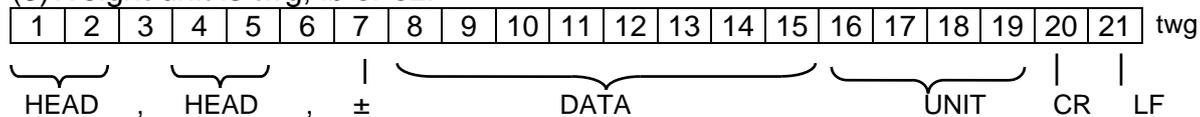
(1) Weight unit is g



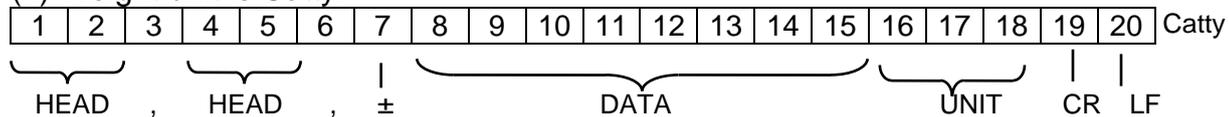
(2) Weight unit is kg/lb



(3) Weight unit is twg, lb or oz.



(4) Weight unit is Catty.



HEAD1 (2 BYTES)	HEAD2 (2 BYTES)
OL - Overload , Under load	
ST - Display is Stable	NT - NET Mode
US - Display is Unstable	GS - GROSS Mode

DATA (7 or 8 BYTE)

2D (HEX) = “ - ” (MINUS)

2B (HEX) = “ + ” (PLUS)

2E (HEX) = “ . ” (DECIMAL POINT)

UNIT (2, 3 or 4 BYTE)

kg = 6B (HEX) ; 67 (HEX)

lb = 6C (HEX) ; 62 (HEX)

tl.T = 74 (HEX) ; 6C (HEX) ; 2E (HEX) ; 54 (HEX)

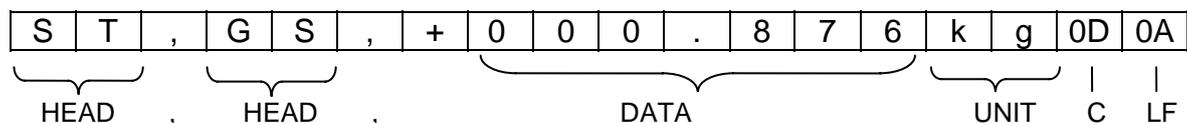
hkg = 68 (HEX) ; 6B (HEX) ; 67 (HEX)



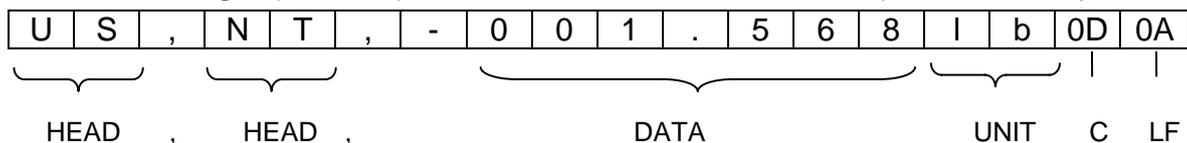
Transmission example:

Data format for RS-232 continuous transmission are as below:

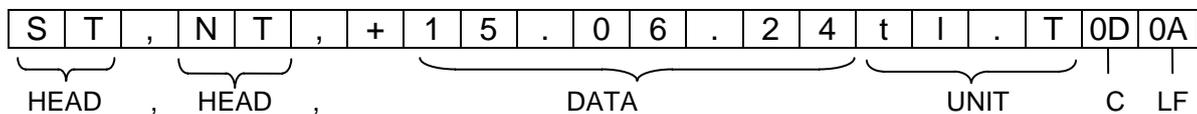
1. The gross weight (+0.876 kg) shows as below, after stable: (under no tare or pretare mode)



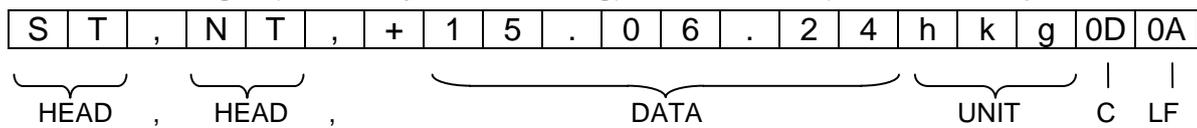
2. The net weight (-1.568lb) shows as below, after unstable: (under tare or pretare mode)



3. The net weight (+15 twg and 6.24 tl.T), after stable: (under tare or pretare mode)

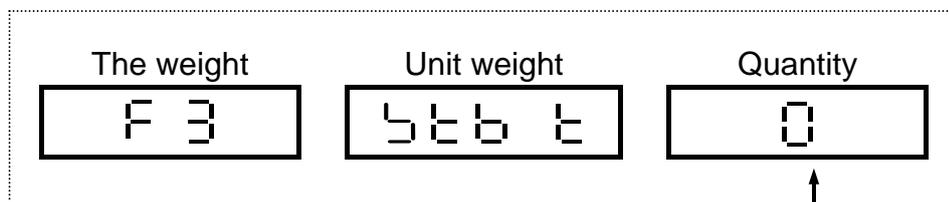


4. The net weight (+15 Catty and 6.24 hkg), after stable: (under tare or pretare mode)





4-3 F3 ⇒ Stabilization (One of judgment conditions) ⇒ Reading times



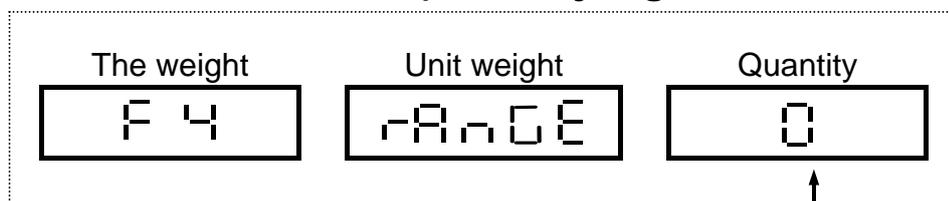
Press number key from **0** to **9** to choose 0~9

0 ~ 9 ⇒ Reading times "0 ~ 9"
 Default setting ⇒ 2 times

Press **Tare** to go to next setting mode.

Press **M+** to save setting values. The scale will count backwards to zero and backward weighing mode from jumping out setting mode.

4-4 F4 ⇒ Stabilization (One of judgment conditions) ⇒ Range

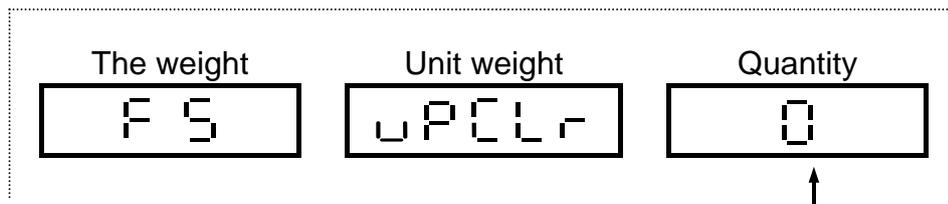


Press number key **0**, **1**, **2**, **3** to choose 0 ~ 3

0 ⇒ 1/4 d
 1 ⇒ 1/2 d
 2 ⇒ 3/4 d
 3 ⇒ 1 d

Press **Tare** to go to next setting mode.

Press **M+** to save setting values. The scale will count backwards to zero and backward weighing mode from jumping out setting mode.

**4-5 F5 ⇒ Clear unit price immediately after** MC

Press number key 0 , 1 to choose 0 or 1

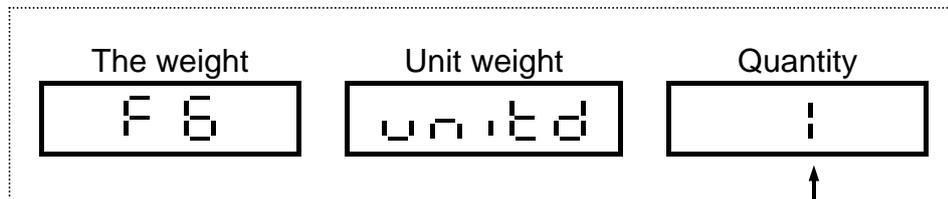
0 ⇒ Unit price reserved.

1 ⇒ Clear unit price immediately.

(Press MC to clear unit price immediately in accumulation mode and change mode.)

Press Tare to go to next setting mode.

Press M+ to save setting values. The scale will count backwards to zero and backward weighing mode from jumping out setting mode.

4-6 F6 ⇒ Set unit mode when power on

Press number key 0 , 1 to choose 0 or 1

0 ⇒ Unit maintains prior setting mode when turning on. (Not conform to laws and regulations)

* Prior setting mode: Maintain the unit if having been set original unit.

Unit reserved when turning on if not having been set original unit.

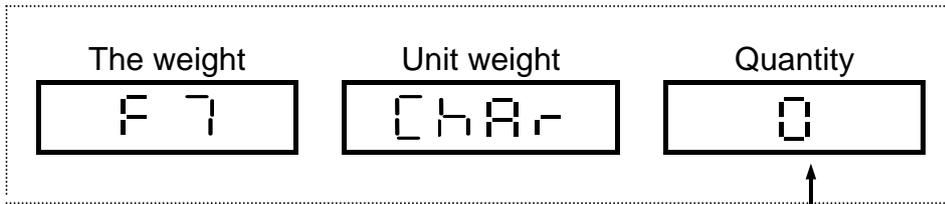
1 ⇒ The unit is “kg” when turning on. (Conform to laws and regulations)

Press Tare to go to next setting mode.

Press M+ to save setting values. The scale will count backwards to zero and backward weighing mode from jumping out setting mode.



4-7 F7 ⇒ Set Mini Printer type



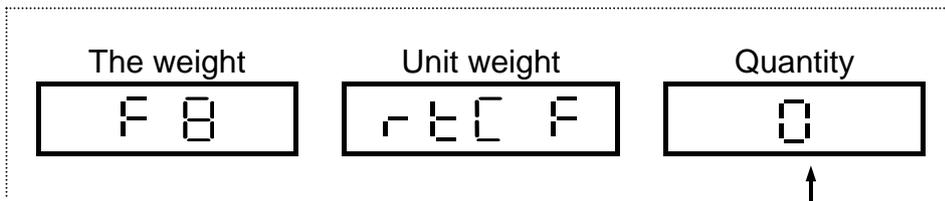
Press number key **0**, **1**, **2**, **3** to choose 0 ~ 3

- 0 ⇒ Iranian type (The output of dates is mainly for solar calendar)
- 1 ⇒ English type
- 2 ⇒ Chinese type
- 3 ⇒ Reserved

Press **Tare** to go to next setting mode.

Press **M+** to save setting values. The scale will count backwards to zero and backward weighing mode from jumping out setting mode.

4-8 F8 ⇒ Set printing format



Press number key **0**, **1**, **2**, **3** to choose 0 ~ 3

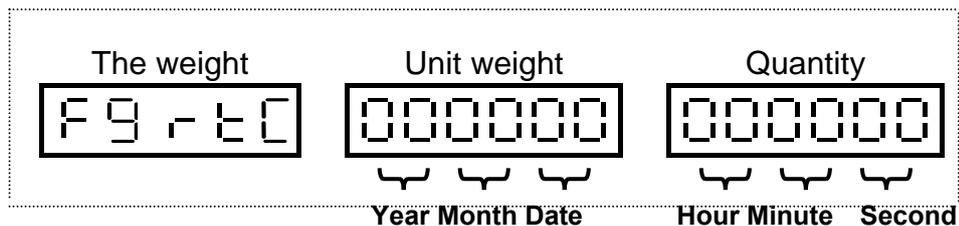
- 0 ⇒ YYMMDD
- 1 ⇒ MMDDYY
- 2 ⇒ DDMMYY

Press **Tare** to go to next setting mode.

Press **M+** to save setting values. The scale will count backwards to zero and backward weighing mode from jumping out setting mode.



4-9 F9 ⇒ Set date and time



Press number key to input in year, moth, date, hour, minute and second.

Press **Tare** to go to next setting mode.

Press **M+** to save setting values. The scale will count backwards to zero and backward weighing mode from jumping out setting mode.



Chapter 5 Power Description

Power Selection

6V/4Ah rechargeable battery and one AC Power (apply to optional model)

(AC 110 V +10%, -15% or AC 220 V +10%, -15%)

Note:

In order to print properly, please use the rechargeable battery and AC power altogether.

Power Consumption

	State	Power Consumption	Continue Operation Time
With a load cell (350 Ω)	do not print (Indicator + Load Cell + 2 sides backlight + Mini Printer)	Less than 55 mA	Over 70 hours
	printing (Indicator+ Load Cell + 2 sides backlight + Mini Printer)	Less than 350 mA	Over 10 hours
Without a printer	(Indicator + Load Cell)	26 mA	About 180 hours
	(Indicator + Load Cell + front display backlight)	32 mA	About 140 hours
	(Indicator + Load Cell + rear display backlight)	40 mA	About 110 hours
Only RS-232 Card		About 25 mA	

Low Power Alarm

Please note when the () symbol keeps flashing on the left down corner of the display, the batteries should be changed.

- ◆ The indicator will turn off automatically after a few hours when the low battery warning symbol shows up. The indicator must be fully charged, before operating again.
- ◆ When the low battery warning symbol shows up, please recharge the indicator immediately for fear of weight instability.

EEPROM Power

When using the rechargeable battery but AC power and the voltage is below 3 V, the data of date, time, etc in RTC IC will disappear in 24 hours.

Safety

1. Please make sure the pole of “+” and “-”.
2. Don't place the battery in high temperature or try to take the battery apart for fear of electric leakage.
3. The battery is only for testing products whether is complete. The span of battery will be not calculated from purchasing date.



Appendix 1 7-Segment Display Characters

Number	Display	Letter	Display	Letter	Display
0		A		N	
1		B		O	
2		C		P	
3		D		Q	
4		E		R	
5		F		S	
6		G		T	
7		H		U	
8		I		V	
9		J		W	
		K		X	
		L		Y	
°C		M		Z	

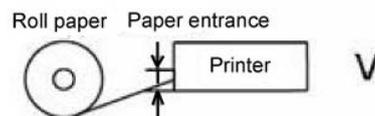


Appendix 2 Printer Installation

A. Roll paper installation and problems solution

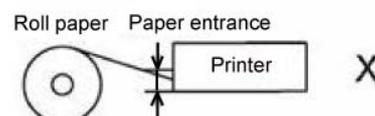
1. Installation roll paper:

- Use designated roll paper with a width 44.5 ± 0.5 mm and internal diameter 50 mm.
- Fix the roll paper into the paper entrance of the Printer.
- Cut the edge of the paper leveling and then install the paper (refer to **V** of picture A). And then use **Feed** key to complete installation (make sure the paper is parallel with the printing location. Avoid operating as **X** of picture A)
- The paper should not be folded or broken.



2. Uninstall roll paper:

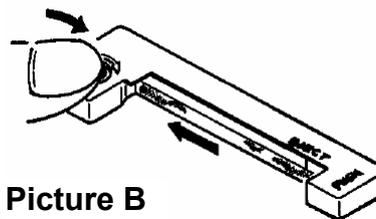
- Cut up the paper at the entrance of Printer, and then pull out the paper from the exit of Printer.



Picture A

3. Paper jam solutions procedures:

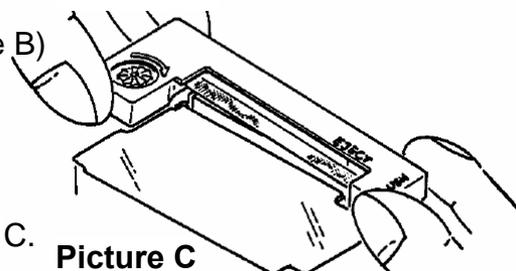
- Uninstall the paper first.
- Use a nipper or others to clear remain wastepaper.



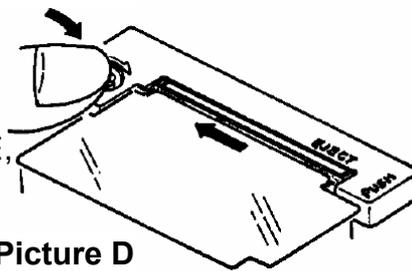
Picture B

B. Ribbon installation

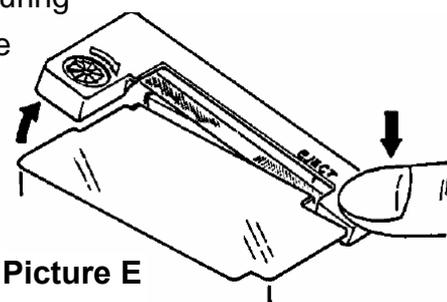
- Use designated ribbon. (ERC-05)
- Uninstall the roll paper before install the ribbon. (Picture B)
- Turn and tighten the ribbon before installation.
- Sway the ribbon to proper location according to Picture C. If the ribbon loosens during installation, retighten it according to Picture D.
- To uninstall the ribbon, press gently the location in Picture E, and then take it out with proper adjustment..
- The ribbon of the model received may deviate its location during its transportation, and this may lead to the breakdown of the Printer. To solve this problem, reinstall the ribbon according to the above procedures.



Picture C



Picture D



Picture E



Appendix 3 FB-610 Load Hook Installation

Please install the load hook (only for FB-610) according to correct order as follows.

