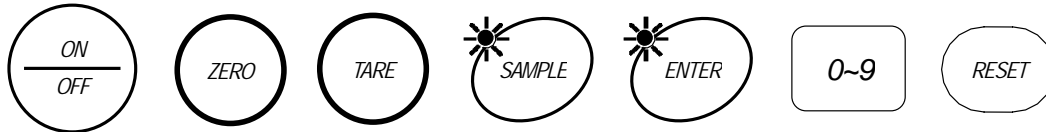


1-5. Simple Operation Mode

If desired, the HC-*i* scale can be set in a Simple Operation Mode. Set the F-Function f-01-01 at "1". In this mode, only front panel keys that would be used in "3-3. Unit Weight By a Sample" counting operations are active. All others will not operate. The following keys are active in Simple Operations Mode:

Keys that will operate in Simple Operation Mode:



1-6. kg or lb Weighing Units

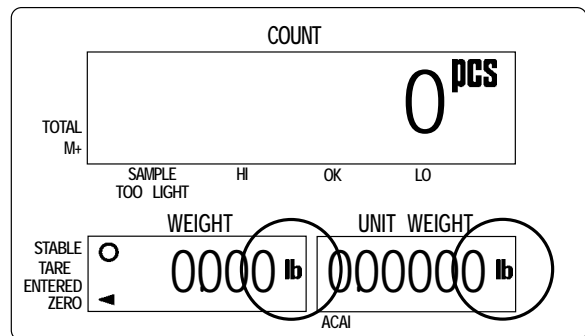
USA Version ONLY

The HC-*i* scale can weigh and register the unit weight in pounds or kilograms. When you switch between the weighing units, any weight amounts being used are also converted.

£ To change the weighing units between pounds and kilograms, see F-Function f-00-01. Set at "0" for kg; or at "1" for lb.

Or,

£ Set F-Function f-09-01 to "2" and you can change the weighing units between "kg" and "lb" by using the key.

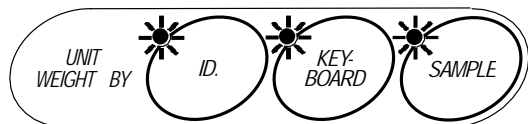


1-7. Last Unit Weight Used Feature

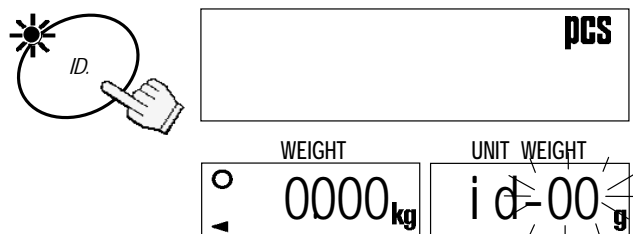
There are a number of ways to register a unit weight to count. The HC-*i* scale has a feature to keep the last unit weight used in memory. This can be handy if you turn the scale off and then want to return to the same unit weight, or you accidentally clear the unit weight by pressing the key.

When a unit weight is registered it is automatically placed in the ID "i d-00" and remains there until a new unit weight is entered. It can be recalled by the following:

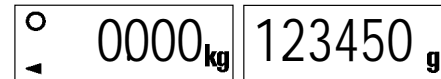
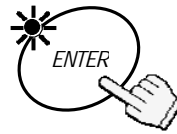
1. When a unit weight is cleared and the three **UNIT WEIGHT BY** LED's are blinking;



2. Press the key.
'i d 00' will be displayed with 00i blinking.



3. Press the **ENTER** key.
The scale will recall the previous unit weight.



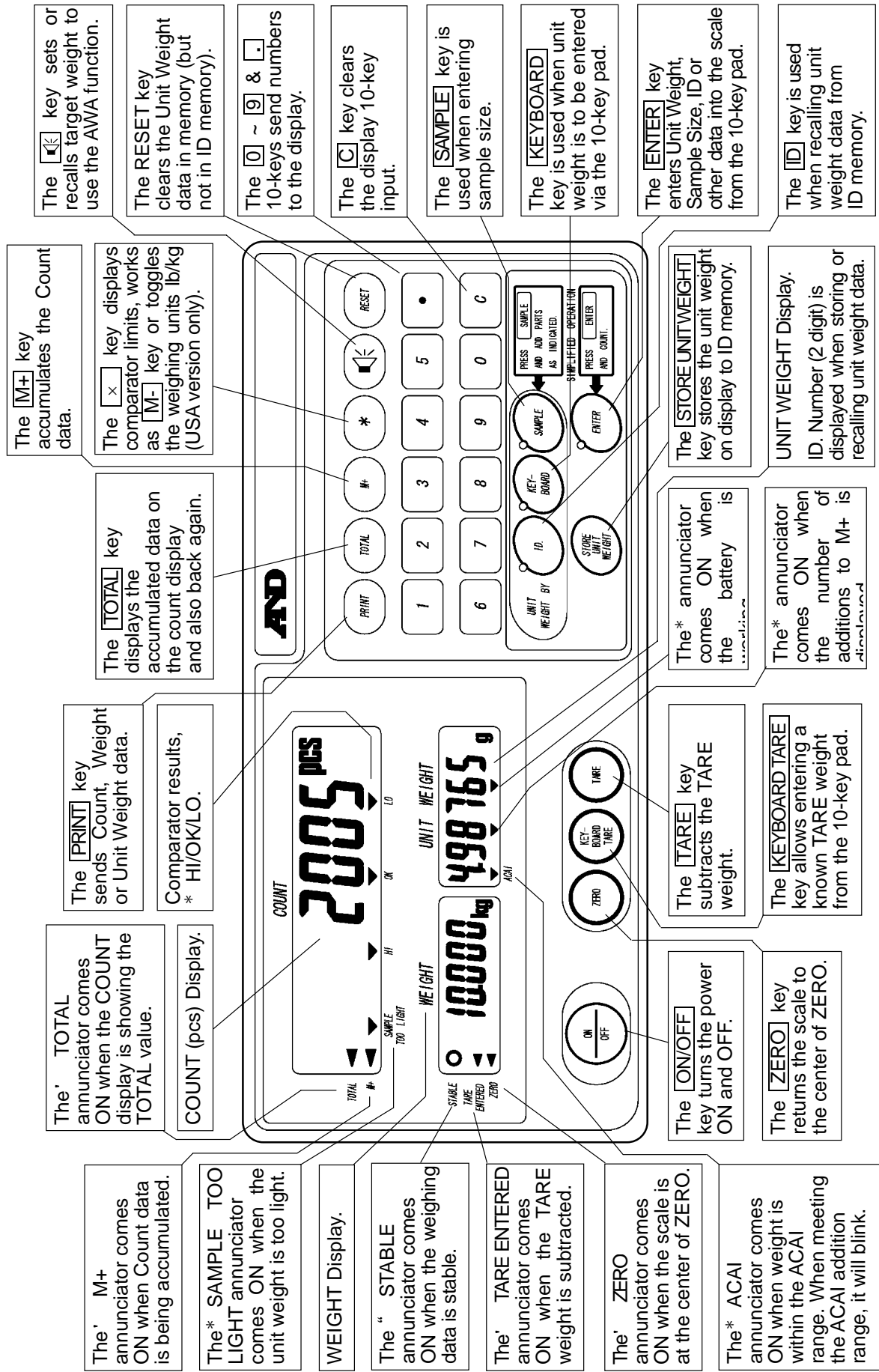
 This feature cannot be used in Simple Operation Mode.

Automatic Last Unit Weight Used

When you turn the display ON, the scale can automatically recall the last unit weight used from memory, if desired.

- £ Set the F-Function f-01-04 at "1". The scale will recall the last unit weight used, when the display is turned ON.

2. Front Panel Overview

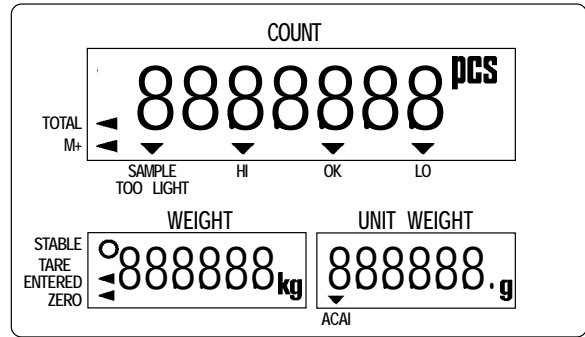
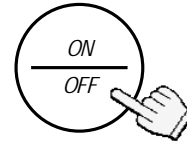


3. BASIC OPERATIONS

3-1. Basic Operations

Turn The Power ON and OFF

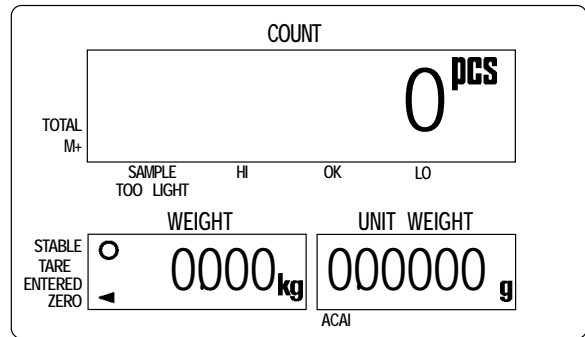
1. Press the **ON/OFF** key to turn the power ON.
All the display symbols will turn on. After a few seconds, the display turns off once. Then, the scale will automatically take zero (power-on zero) and the display shows zero.



2. Press the **ON/OFF** key again, and the power will be switched OFF.

£ Auto-power off function

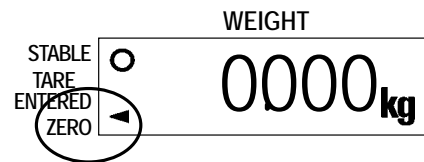
It is possible to have the power automatically switched OFF. If zero is displayed for approximately 5 minutes. See “9-2. Functions” and set the F-Function f-04-05 at “1” to enable the function.



ZERO

- £ The **ZERO** key will bring the weight display back to zero.

1. Remove everything from the weighing pan and press the **ZERO** key. Then the weight display shows “-----” and waits for the weighing data to become stable.
2. The scale will zero and the ZERO indicator will come ON to indicate that the scale is ready to start weighing or counting.

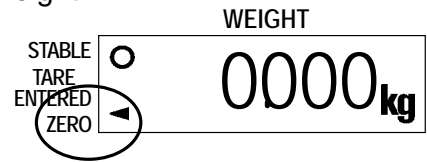


- £ There is automatic re-zeroing function called “Zero Tracking”. The scale initially comes with this function enabled to take care of normal drifts from zero caused by changes in temperature, humidity, air pressure etc. (F-Function f-04-01).

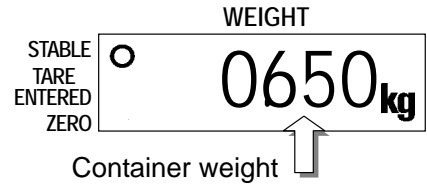
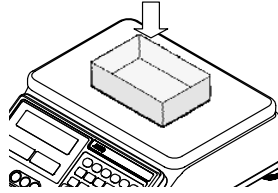
TARE

£ The **TARE** key will subtract the displayed container weight.

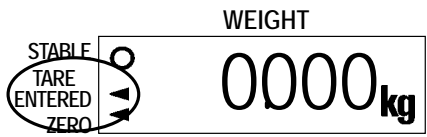
1. Remove everything from the weighing pan and press the **ZERO** key to zero the scale.



2. Place a tare container on the weighing pan. The weight display will show the weight of the container.



3. Press the **TARE** key. Then the weight display shows "-----" and waits for the weighing data to become stable.

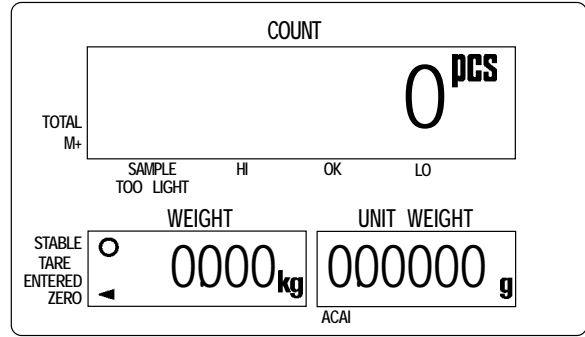


4. The scale will subtract the weight of the container and the weight display changes to net weight.

£ The TARE ENTERED indicator will light.

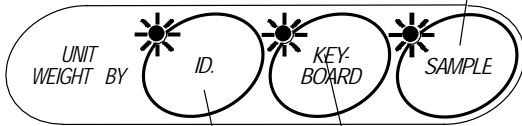
3-2. To Start Counting

1. Press the **ON/OFF** key to turn the scale ON. Or press the **RESET** key to initialize any previous operations.
2. The three LED's on the **UNIT WEIGHT BY** keys will blink. This is to prompt you to select a method for entering a unit weight for operation.



3. Select one of the ways to enter or recall the unit weight (the weight of one item of what you are counting), and see the section noted for more instructions.


By using a sample: Section "3-3"
 £ 10 sample size
 £ 5, 25, 50 or 100 sample size
 £ Desired sample size
 £ Desired sample size not to use the **SAMPLE** key



By using the I0-key pad: Section "3-4"

By stored ID number: Section "3-5"

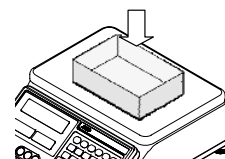
]
 You can return to this point at any time during operation by pressing the **RESET** key. (This doesn't clear the entered tare weight, M+ memory, AWA settings and comparator limits.



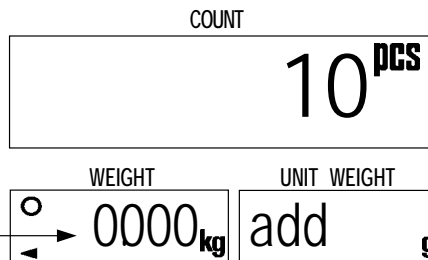
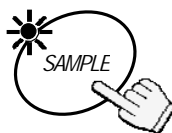
3-3. Unit Weight By a SAMPLE

10 Sample Size

1. The three **UNIT WEIGHT BY** LED's should be blinking at this point, if not, press the **RESET** key. to clear any unit weight. If you are going to use a tare container, place it on the weighing pan.

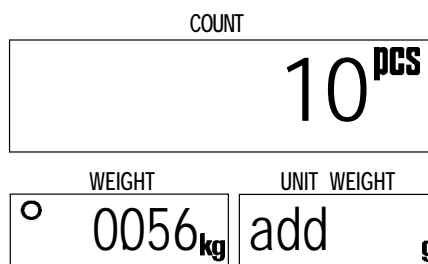
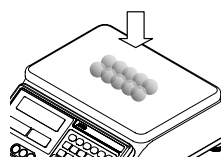


2. Press the **SAMPLE** key. Any tare container will be automatically tared. The display Will show “add” “10 pcs”.

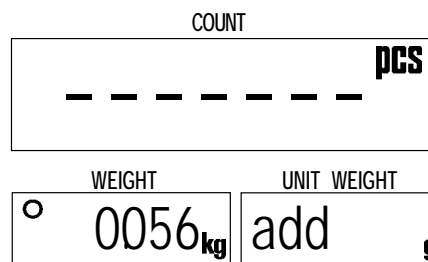
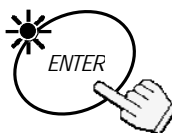


If weight isn't zero, press the TARE.

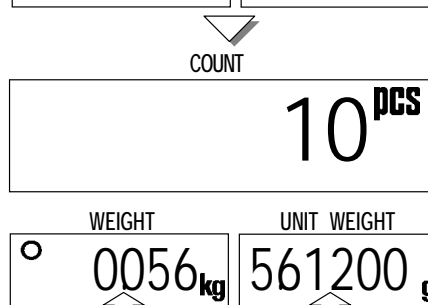
3. Place 10 sample pieces on the weighing pan (or in the tared container). The weight of all 10 pieces will be displayed.



4. Press the **ENTER** key. The display will show “-----” for a moment while calculating the unit weight. After a moment the display will show the count, total weight and unit weight.



At this point the scale may decide that 10 pieces is not a large enough sample size for accurate counting. If you see the “add ##” on the unit weight display, then add the additional number of sample pieces displayed.



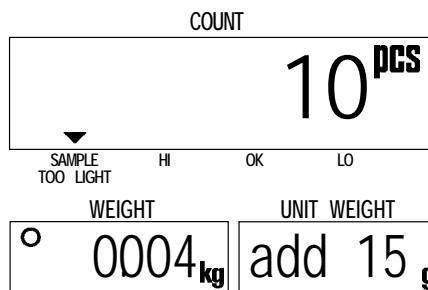
Total Weight
The weight of all the sample pieces

Unit Weight
The calculated weight of a unit.

- £ You can ignore the “add ##” message and continue counting by pressing the **ENTER** key. However, the results may not be accurate. See F-Function f-01-02.

5. You may now begin counting operations for pieces of the same weight.

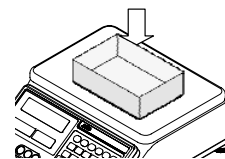
- £ See “10. ACAI FUNCTION” for information concerning the ACAI counting accuracy function.



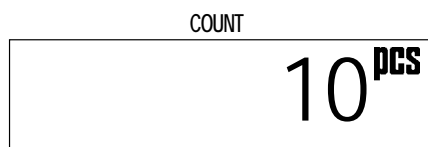
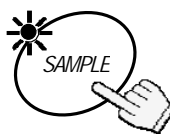
Another 30 pieces

5, 25, 50 or 100 Sample Size

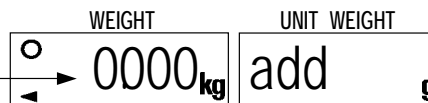
1. The three **UNIT WEIGHT BY** LED's should be blinking at this point, if not, press the **RESET** key. to clear any unit weight. If you are going to use a tare container, place it on the weighing pan.



2. Press the **SAMPLE** key. Any tare container will be automatically tared. The display will show "add" "10 pcs".



If weight isn't zero, press the TARE.



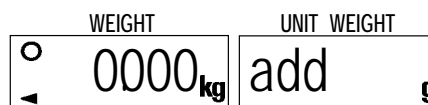
3. Press the **SAMPLE** key to do through the count size: of 5, 25, 50 or 100 pieces.



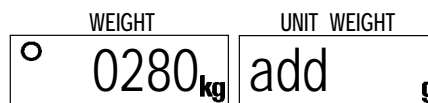
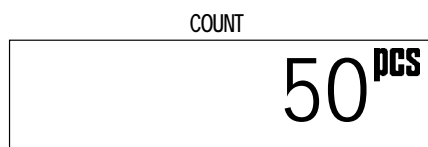
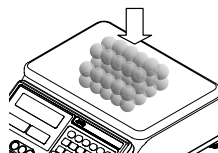
à 10 à 5 à 25 à 50 à 100



- £ The larger the sample size, the more accurate unit weight registered. (Example of selecting a sample size of 50)

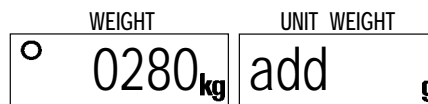
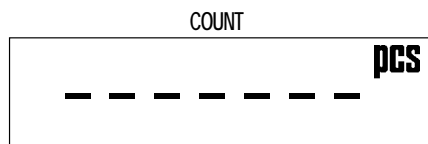


4. Place the selected number of sample pieces on the weighing pan (or in the tared container). The weight of the pieces will be displayed.



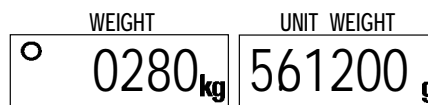
5. Press the **ENTER** key. The display will show "-----" for a moment while calculating the unit weight. After a moment the display will show the count, total weight and unit weight.

ë Blinking



- If the "add ##" appears on the unit weight display, then the sample size is not large enough for accurate counting – add the additional number of sample pieces.

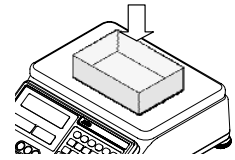
▽
COUNT



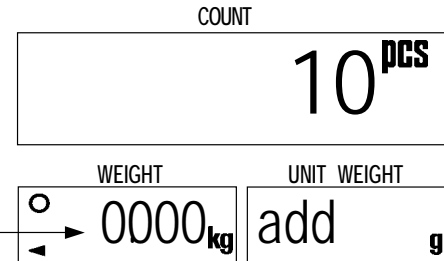
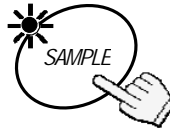
6. You may now begin counting operations for pieces of the same weight.

Desired Sample Size

1. The three **UNIT WEIGHT BY** LED's should be blinking at this point, if not, press the **RESET** key. to clear any unit weight. If you are going to use a tare container, place it on the weighing pan.

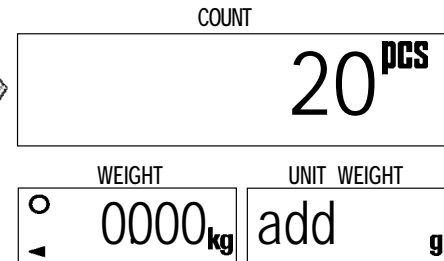
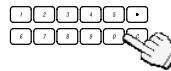


2. Press the **SAMPLE** key. Any tare container will be automatically tared. The display Will show “add ” “10 pcs”.



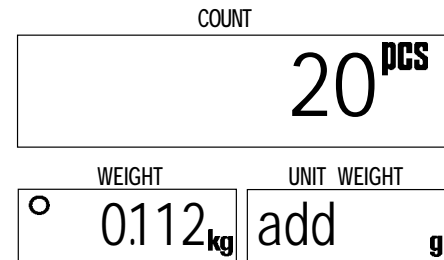
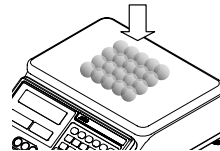
If weight isn't zero, press the TARE.

3. Use the **0** à **9** 10-key pad to display the sample size desired.



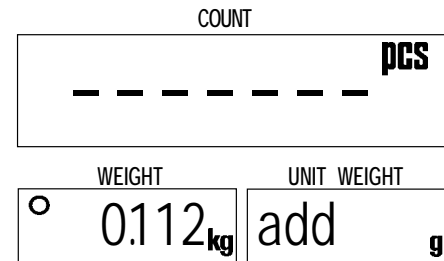
- a. If you hit the wrong key, press the **C** key to clear and start again. (Example of selecting a sample size of 20)

4. Place the selected number of sample pieces on the weighing pan (or in the tared container). The weight of the pieces will be displayed.

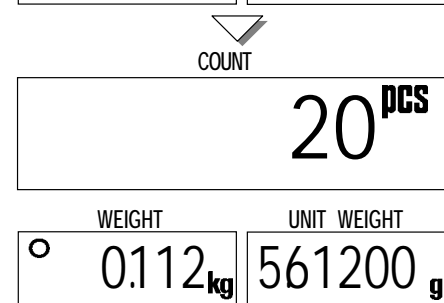


5. Press the **ENTER** key. The display will show “-----” for a moment while calculating the unit weight. After a moment the display will show the count, total weight and unit weight.

Blinking



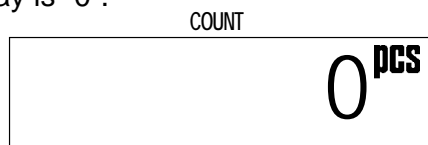
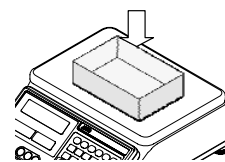
- a. If the “add ##” appears on the unit weight display, then the sample size is not large enough for accurate counting – add the additional number of sample pieces.



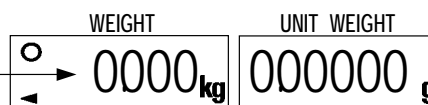
6. You may now begin counting operations for pieces of the same weight.

Desired Sample Size Not Using The **SAMPLE** Key

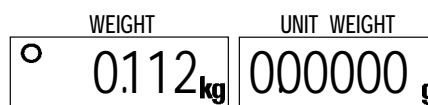
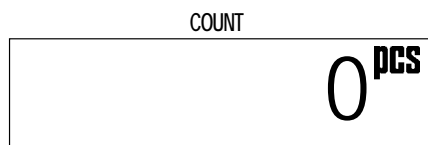
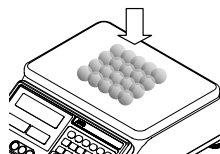
1. The three **UNIT WEIGHT BY** LED's should be blinking at this point, if not, press the **RESET** key. to clear any unit weight. If you are going to use a tare container, place it on the weighing pan and press the **TARE** key. Be sure to set the weight display is "0".



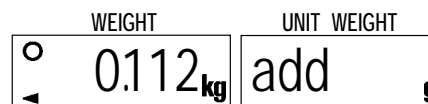
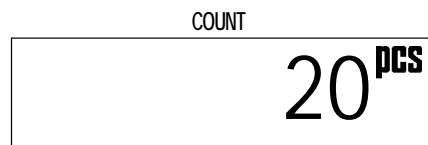
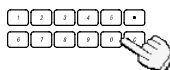
If weight isn't zero, press the TARE.



2. Place sample pieces on the weighing pan (or in the tared container).
The weight of the pieces will be displayed.

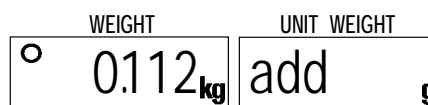
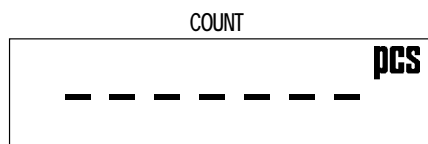
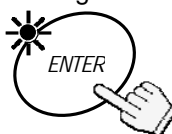


3. Use the **0** à **9** 10-key pad to enter the sample size of the pieces you placed.
⌘ If you hit the wrong key, press the **C** key to clear and enter again. (Example of setting a sample size of 20)

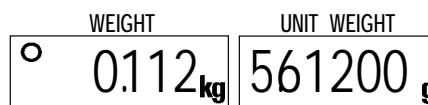
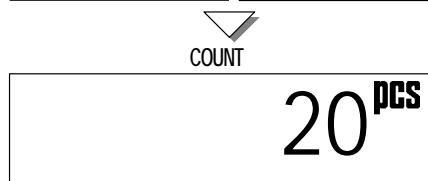


4. Press the **ENTER** key.
The display will show "-----" for a moment while calculating the unit weight. After a moment the display will show the count, total weight and unit weight.

⌘ Blinking!



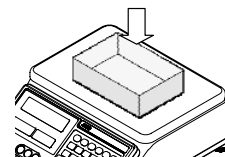
- If the "add ##" display appears on the unit weight display, then the sample size is not large enough for accurate counting – add the additional number of sample pieces.



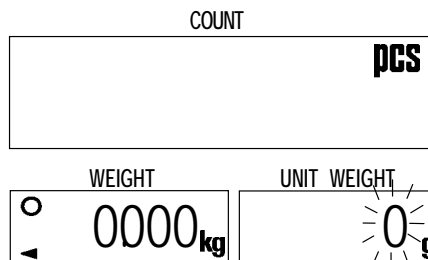
5. You may now begin counting operations for pieces of the same weight.

3-4. Unit Weight By KEYBOARD

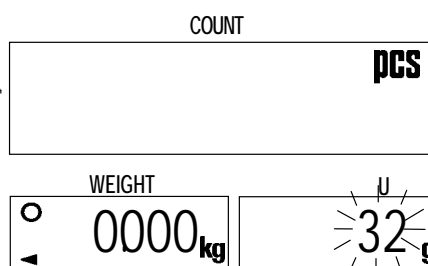
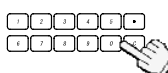
1. The three **UNIT WEIGHT BY** LED's should be blinking at this point, if not, press the **RESET** key. to clear any unit weight. If you are going to use a tare container, place it on the weighing pan and press the **TARE** key. Be sure to set the weight display is "0".



2. Press the **KEYBOARD** key.
The unit weight display and the **ENTER** key LED will blink.

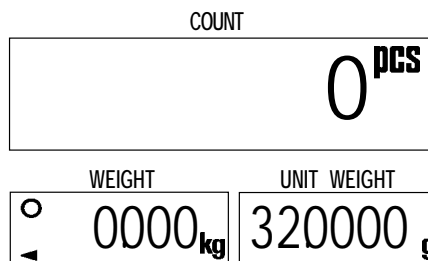
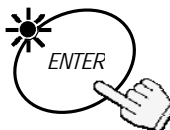


3. Use the **0** à **9** and **.** 10-key pad to display the unit weight.

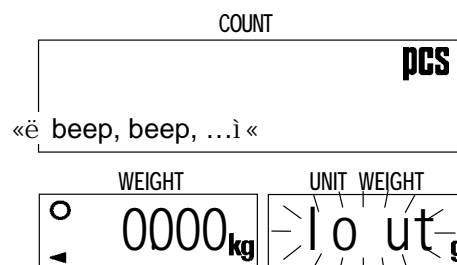


- £ If you hit the wrong key, press the **C** key to clear and start again.
(Example of a unit weight 32g)

4. Press the **ENTER** key.
The unit weight 32g will have been entered.



- ⚠ If the unit weight entered is too light, "lo ut" (low unit weight) will be displayed, and you will be returned to step 3.



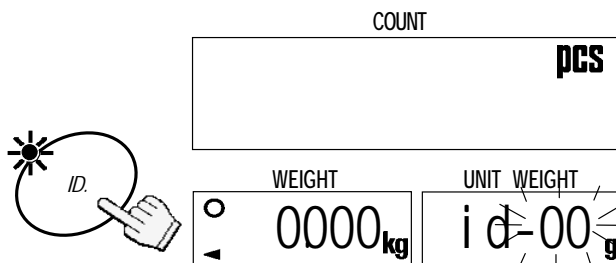
5. You may now begin counting operations for pieces of the same weight.

3-5. Unit Weight By ID Number

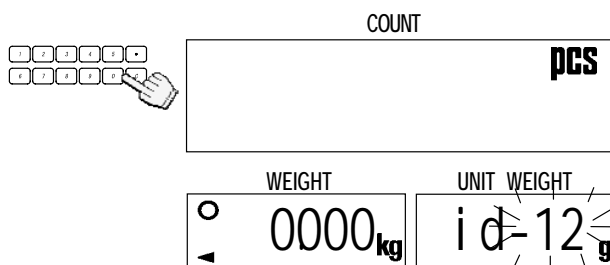
1. If there are no unit weights stored into memory, see “5-1. Store unit weight by ID Numbers”.

The three **UNIT WEIGHT BY** LED's should be blinking at this point, if not, press the **RESET** key to clear any unit weight.

2. Press the **ID** key.
‘i d-00’ will be displayed with ‘00’ blinking.

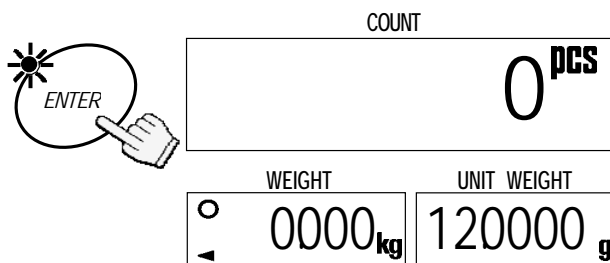


3. Use the **0** à **9** 10-key pad to display the ID number.

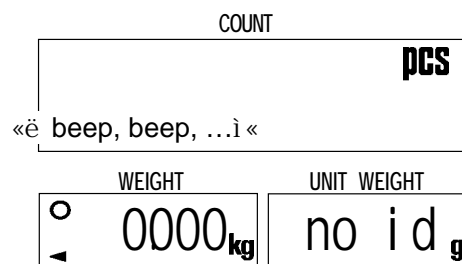


- £ If you hit the wrong key, press the **C** key to clear and start again.
(Example of ID number ‘12’)

4. Press the **ENTER** key.
The count display will show ‘0’ and the scale will recall ‘12g’ previously entered as the unit weight of ID 12.



- ⚠ If there is no unit weight entered for the ID number you tried to recall, “no i d” will be displayed, and you will be returned to step 3.



5. You may now begin counting operations for pieces of the same weight.

]

- £ “i d-00” is a special memory area. It always holds the last unit weight entered.
- £ When you register a unit weight, it is automatically placed in the ID “i d-00”.
- £ If you clear the unit weight by pressing the **RESET** key, it can be recalled by recalling the ID “i d-00”.

4. ENTERING A TARE WEIGHT

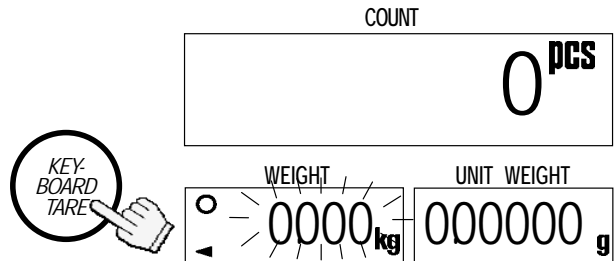
There are two methods of tare operations.

- £ Using the **TARE** key to subtract the displayed container weight directly. Please see “3-1. Basic Operations”.
- £ Using the **KEYBOARD TARE** key to enter a tare weight via the 10-key pad.

4-1. Using the KEYBOARD TARE Key

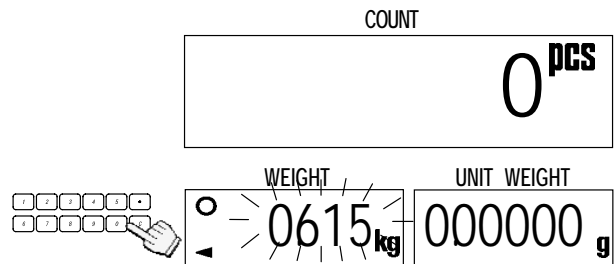
1. Remove everything from the weighing pan and press the **ZERO** key to zero the scale.

2. Press the **KEYBOARD TARE** key.
The weight display will blink (display is any tare weight previously entered).



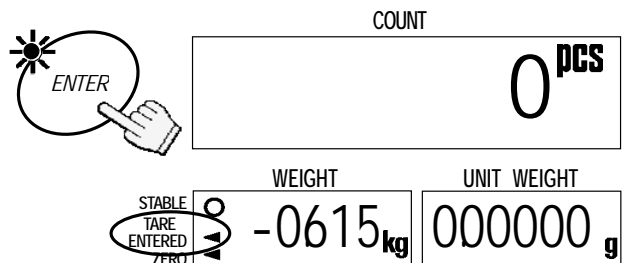
3. Use the **0** à **9** 10-key pad to display the desired tare weight.

- £ If you hit the wrong key, press the **C** key to clear and start again. (Example of a tare weight 615g)



4. Press the **ENTER** key.
The weight display changes to net weight.

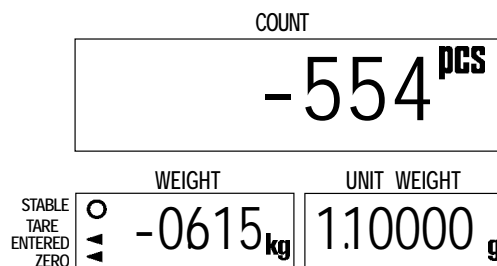
- £ The TARE ENTERED indicator will light.



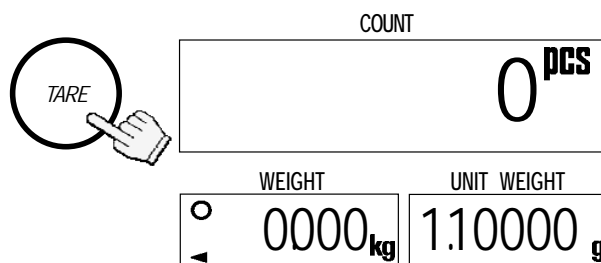
4-2. To Clear TARE

Either:

1. Have nothing on the weighing pan.
- £ If the ZERO indicator is not displayed, press the **ZERO** key to zero the scale.

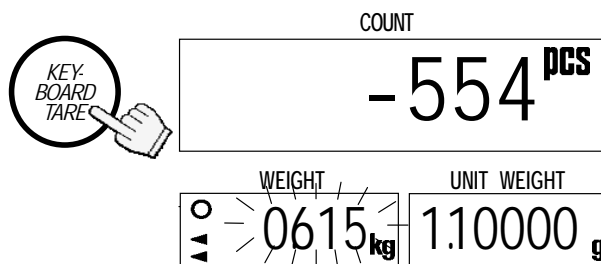


2. Press the **TARE** key. The weight display will go to "0", and the TARE ENTERED indicator will be turned off (tare cleared).

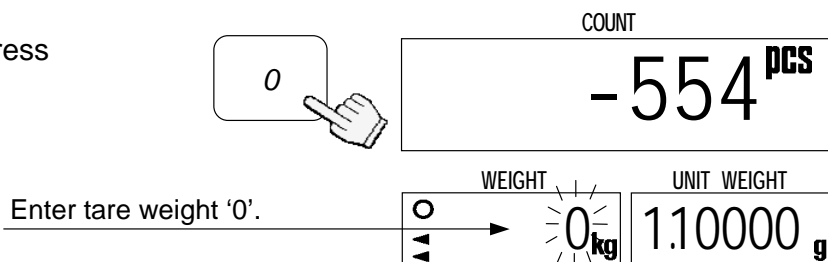


Or:

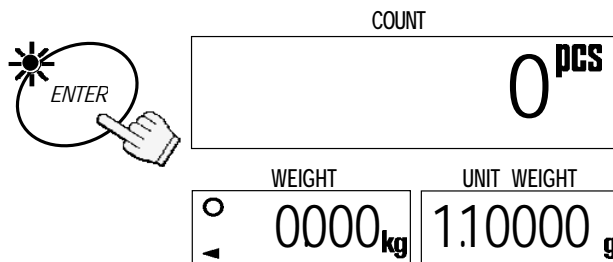
1. Press the **KEYBOARD TARE** key. The weight display will blink (display is any tare weight previously entered).



2. Press the **0** key and press the **ENTER** key.



3. The tare weight is cleared and the TARE ENTERED indicator will be turned off.



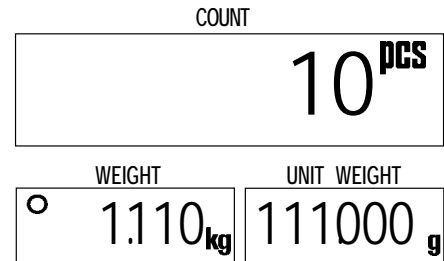
5. STORE UNIT WEIGHT

5-1. Store Unit Weight by ID Numbers

The scale can memorize up to 99 unit weights by 2 digit ID numbers, from 01 to 99. To recall, see “3-5. Unit Weight By ID. Number”.

£ The scale is initially set to memorize ID numbers with a unit weight only. However, it can be set to memorize a TARE weight and comparator limits by setting F-Function f-01-05.

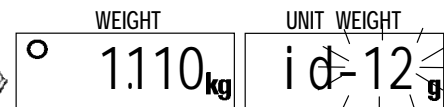
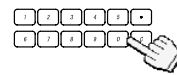
1. First register a unit weight by any method – using a sample or via the 10-key pad – and have it displayed.



2. Press the **STORE UNIT WEIGHT** key. “i d-00” will appear with 00i blinking.

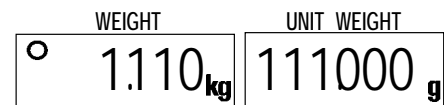
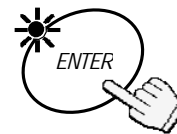


3. Use the **0** à **9** 10-key pad to display the new ID number. (Example of ID number “12”)

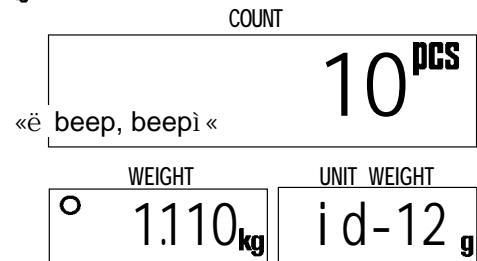


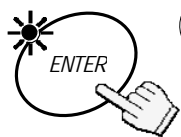
£ If you hit the wrong key, press the **C** key to clear and start again.

4. Press the **ENTER** key. The ID number is memorized and the display returns to normal.



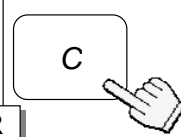
1. If the same ID number was previously stored, the scale beeps twice and the ID number display stops blinking. You must then select one of two options: either (a) Overwrite the old ID unit weight, or (b) Select a different ID number:





(a) Press the **ENTER** key to overwrite the old ID number.

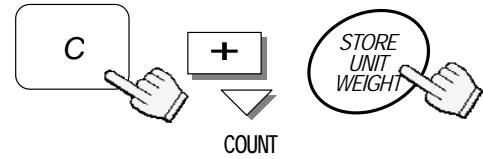
OR



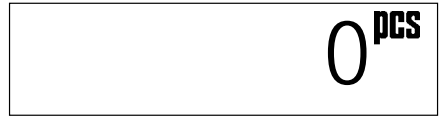
(b) Press the **C** key to clear and go to step 3.

5-2. Clearing A Memorized Unit Weight

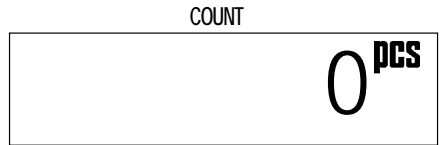
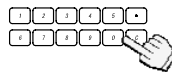
1. Press and hold the **C** key, then press the **STORE UNIT WEIGHT** key – release both.



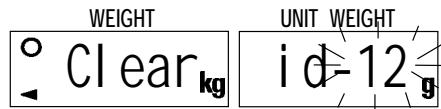
2. “Clear” will appear and “id-00” will appear with “00” blinking.



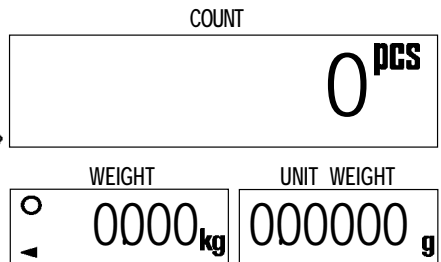
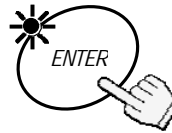
3. Use the **0** à **9** 10-key pad to display the ID number to clear. (Example of ID number “12”)



- ⚠ If you hit the wrong key, press the **C** key to clear and start again.



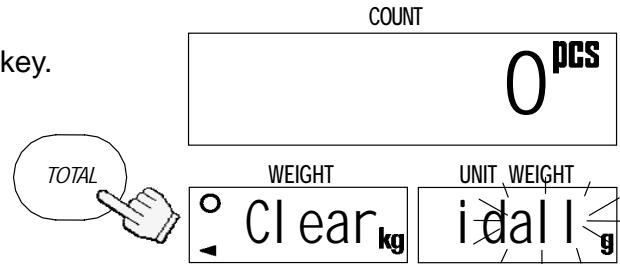
4. Press the **ENTER** key. The ID memory specified at step 3 will be cleared and the display returns to normal.



- ⚠ If there is no such ID number to clear, the scale will beep. Return to step 2 to try again, or press the **RESET** key to exit.

Clearing All ID Memories at Once

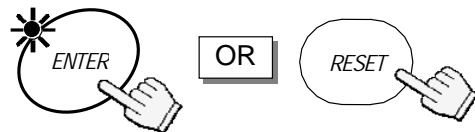
1. In the Step 2 above, press the **TOTAL** key. “idall” will appear with “all” blinking.



2. Press the **ENTER** key, then “all” blinking will stop.



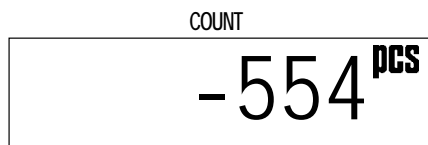
3. Press the **ENTER** key again to clear all of ID memories. Press the **RESET** key to exit without clearing ID memories. Display will return to normal.



5-3. Unit Weight, Tare & Comparator Limits Memorized


The scale is initially set to store ID numbers with a unit weight only. However, it can be set to store a tare weight and/or comparator limits also by setting F-Function f-01-05.

1. First register a unit weight and a tare weight by any method. If necessary, set the comparator limits.



2. Go to step 2 of section "5-1. Store Unit Weight By ID Numbers".



-  When you recall a unit weight by the ID key, the tare and/or comparator limits are also recalled along with the unit weight.



"i d-00", the special memory area, does not store a tare weight and comparator limits along with unit weight.

6. USING THE M+ MEMORY

6-1. The M+ Memory Function

- £ The scale can accumulate count data by pressing the **M+** key, or automatically (see the next page). It also keeps track of the number of times you add to the total.
- £ When you view the total by pressing the **TOTAL** key, you view the number of pieces accumulated and the number of additions (how many times the total was added to). Please see “6-2.” and “6-3.” to view or clear the total count.

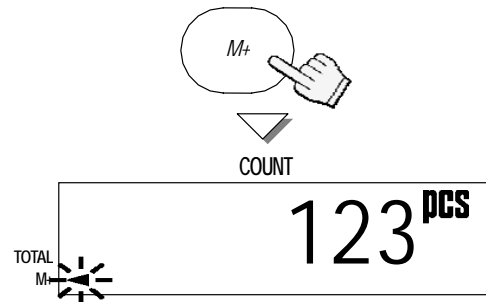
Adding Using the M+ Key

£ When stable count data is displayed:

1. Press the **M+** key.
The scale will beep and the **M+** annunciator will blink for a few seconds.

⚠ If the scale beeps 4 times, or the **M+** indicator did not blink, then refer to the note below.

⚠ The **M+** indicator will stay ON while there is count in memory.

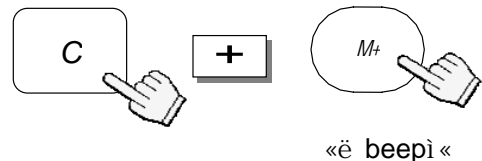


2. Press the **M+** key every time you want to add to the count. Remember that you may only add the count data once – the scale must return to near zero before it will let you add again.

-]
- £ The **M+** key is accepted only once for every stable count data. Once accepted, the **M+** key is prohibited until the display returns to less than +5d (1d = 1 weighing division).
 - £ If f-03-02 is set at “1”, then the **M+** key can accumulate negative data. Once the **M+** key is accepted, weight data must return within $\pm 5d$ before the next accumulation.
 - £ To memorize the total count in the ID number, see “5-3. Unit Weight, Tare & Comparator Limits Memorized”.

To Erase the Last M+ Addition

1. Press and hold the **C** key, then press the **M+** key – release.
2. The scale will beep and clear the last **M+** addition.



⚠ If the scale beeps 4 times, there is no **M+** addition to erase.

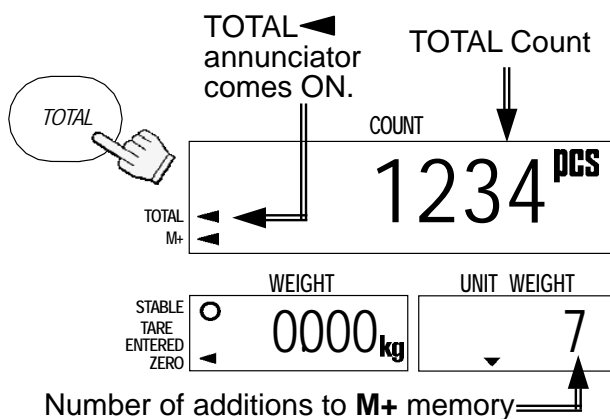
Automatic M+ Accumulation Mode

£ M+ Accumulation can also be done automatically each time you count a different batch, As soon as you have a stable count, it will be added to the M+ memory and the scale will beep«. The weight display will have to return to near zero before another count can be added.

- ⚠ Automatic M+ accumulation is set by F-Function f-03-01 at "1".
- ⚠ Only positive counts can be added. If F-Function f-03-02 is set at "1" (to accept negative count data), it will be ignored.
- ⚠ Once there is an automatic M+ accumulation, the display must return to less than +5d before another count can be accumulated.

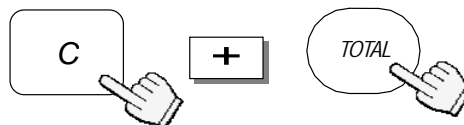
6-2. Viewing the M+ TOTAL

1. Press the **TOTAL** key.
The count display will show the total count and the TOTAL annunciator will come ON.
The number of additions to the M+ memory is also shown.
2. Press the **TOTAL** key again.
The display will return to normal.



6-3. Clearing the M+ TOTAL

1. Press and hold the **C** key, then press the **TOTAL** key – release both.
2. The scale will clear the M+ memory, and the TOTAL annunciator and the M+ annunciator will go OFF.



- £ The **RESET** key does not clear the total data.
- £ The total data is held in memory, even if AC/Battery power to scale is interrupted.

6-4. The M- Function

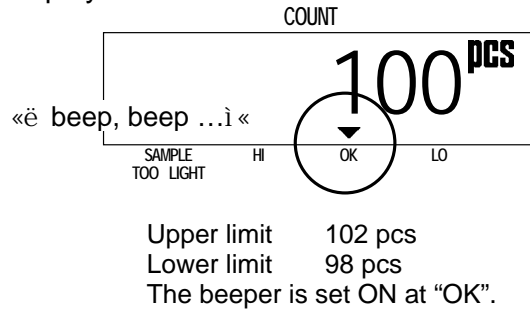
- £ The scale can subtract count data from M+ memory by using the **×** key.
- £ Set the F-Function f-09-01='1' to use the **×** key as **M-** key.

- ⚠ This function is not to clear the last M+ addition, but to subtract count data instead of addition. The number of additions is increased.
- ⚠ There is no automatic M- function.

7. COMPARATOR FUNCTION

£ The scale contains a comparator function that checks the amount on the weighing pan against set acceptable count or weight levels. When the comparator function is activated, “HI”, “OK” or “LO” indicator * will be displayed.

£ Before the comparator will work, Upper and Lower Limits must be set (see below). The levels are set by count or weight. So, if you are using weight for your comparator levels, calculate the weight before starting the procedure below.



£ If the OP-04 is installed, comparator relay output is also available.

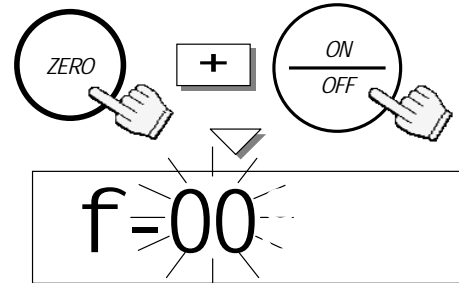
- £ The comparator responds as follows,
- “HI” Upper Limits < Count / Weight Data
 - “OK” Lower Limits mCount / Weight Data mUpper Limits
 - “LO” Count / Weight Data < Lower Limits

To Set the Comparator

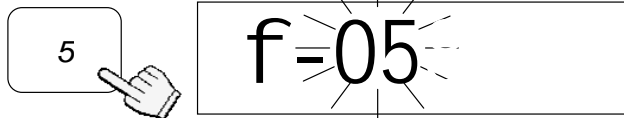
£ Start with the scale switched off.

1. Press and hold the **ZERO** key, then press the **ON/OFF** key – release both.

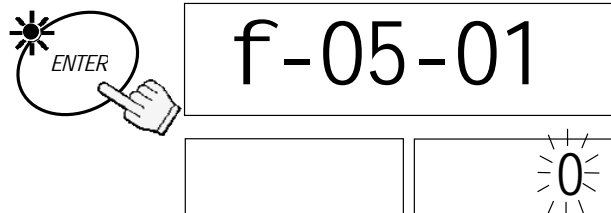
The count display will show “f-00” with “00” blinking.



2. Press the **5** key to enter into the F-Function *F-05-X Comparator* section.

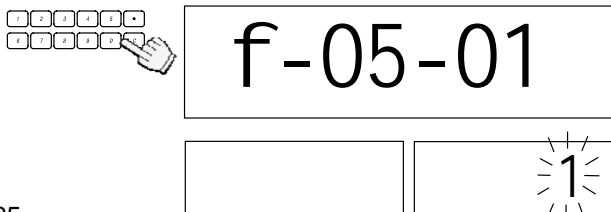


3. Press the **ENTER** key. The count display will show the F-Function and its present setting will blink.

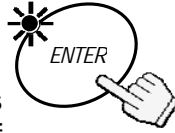


4. Use the **0** à **6** keys to display the number of the desired setting.

For example, let’s select “1” compare all data.



5. Press the **ENTER** key to save the setting and move to next F-Function, f-05-02.

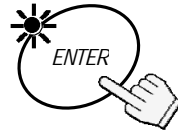


f-05-02

6. Continue to enter f-05 comparator settings – refer to “9-2. F-Functions” for a listing. If there are no changes to a F-Function, press the **ENTER** key to move to the next.

0

7. When finished: press the **ON/OFF** key to exit. Then, press it to turn the display back ON. Comparator functions and limits will now operate as set.



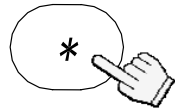
To ENTER or MOVE to next

Viewing Comparator Limits

£ The comparator limits you are using will be shown by pressing the **x** key.

£ Set f-09-01="0" to use this mode.

1. Press the **x** key, then upper limit will be shown.



COUNT 102^{PCS}
WEIGHT 0000^{kg} UNIT WEIGHT Hi
Upper limit

2. Press the **x** key again, then lower limit will be shown.

3. Press the **x** key. The display will return to normal.

Changing Comparator Limits Instead of Setting the F-Function

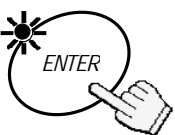
£ Set f-09-01="0" to use this mode.

1. To change the upper limit, use the **0** à **9** 10-key pad to display new limit in step 1 above, and press the **ENTER** key. Then new limit is memorized and the lower limit will be shown.



COUNT 102^{PCS}
WEIGHT 0000^{kg} UNIT WEIGHT Hi

2. To change the lower limit, use the **0** à **9** 10-key pad to display new limit, and press the **ENTER** key. Then the display will return to normal with the new limit.



COUNT 98^{PCS}
WEIGHT 0000^{kg} UNIT WEIGHT 10

£ Pressing the **x** key to go to next step, the input data is not memorized.

⚠ These limits are held in memory even if power to the scale is switched off.