# "KCS SERIES" COIN COUNTING SCALES





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# "KCS SERIES" - COIN COUNTING SCALE USER MANUAL

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### "KCS SERIES" – COIN COUNTING SCALE

### Features

- Auto calibration
- Programmable Unit Weight and Denomination
- 10 preset keys for coins, tickets or tokens denomination
- 3 bright displays for Quantity / Denomination / Total Value
- Total value calculation
- Up to 25 accumulations
- Tare function (100% Tare)
- Settable ASC II Code symbol
- Currency value setting range 0.01 to approximately 999
- Security password
- Overload protection
- LED backlight included
- RS-232 interface included
- Baud Rate Selection: 300/600/1200/2400/4800/9600
- Low battery and charging status indication

<b>MODELS</b>	<b>Capacity</b>	<b>Division</b>		
KCS-12	6 kg/12 lb	1 gram/0.002		
KCS-30	15 kg/30 lb	2 grams/0.004		
KCS-60	30  kg/60  lb	5 grams/0.01		

**Operating Temperature**: 32° F. – 104° F. **Ship Weight**: 11 lbs

**Power Source**: AC 110V 50/60 Hz Limited Warranty: 12 months

(DC 6V 4.5AH Rechargeable Battery)

**Platter Size**: 11.0" x 9.0" (280 mm x 230 mm) **Overall size**: 11.0" W x 11-1/4" D x 4-3/4" H

### **WARRANTY**

KLOPP International Inc. offers customers a one-year warranty on this product from the day it is purchased.

In the U.S.A., the product (if defective) should be returned, freight prepaid by the customer, to KLOPP International Inc. in Florida. In any event, please contact the KLOPP International Inc. office before shipping to confirm that the product is covered by this warranty.

This warranty only applies to product failures due to defective materials and/or workmanship. This warranty will be rendered invalid if, upon inspection, it is found that the product was: abused; used for a purpose for which it was not designed; mishandled; placed in a hostile environment; repaired by unauthorized personnel; improperly installed or not adjusted in accordance with instructions given in this manual.

If repair under warranty is confirmed by KLOPP International Inc., then the product will be repaired (or replaced at the discretion of KLOPP International Inc.) and returned to the customer at no extra cost.

### **COMPLIANCE WITH FCC RULES**

Please note that this equipment generates, uses, and can radiate radio frequency energy. This equipment has been tested and has been found to comply with the limits of a Class A computing device pursuant to Subpart J of Part 15 of FCC rules & These rules are designed to provide reasonable protection against interference when equipment is operated in a commercial environment. If this unit is operated in a residential area, it might cause some interference and under these circumstances the user would be required to take, at his own expense, whatever measures are necessary to eliminate the interference.

(FCC = Federal Communications Commission in the U.S.A.)

### SCALE UNPACKING INSTRUCTIONS

Unpack the scale carefully and keep the packing material if you are likely to transport the scale again in the future.

In the carton you should find this manual plus:

- The Counting Scale and Platter
- An AC/DC adapter (check that the AC input rating is correct)
- Plastic Plug Insert
- 1. Remove the protective packing materials from around the scale. Then remove the shipping overload stop (6 kg and 15kg scales only) on the bottom of the scale and place in shipping container for future use.
- 2. Place counting scale pan onto scale base being careful to line up pan pins with receptive holes. Push down carefully to secure pan.
- 3. Place the scale on a suitable weighing surface (see BEST CONDITIONS FOR WEIGHING, next page) and turn the adjustable feet until the spirit level shows that the scale is level.
- 4. Plug in the AC/DC adaptor. The AC input requirements could be 100, 120 Volts (50/60Hz) depending on the area in the world so please check that the adaptor is correct. The adaptor's DC output should be about 6 Volts (please note that an alternative 6V DC power supply might not be stable for this scale). Ground the chassis to an earth ground if you think static electricity may be a problem.
- 5. Locate the on/off switch on the left under side of the scale and turn switch to "on". Please Note: Your scale is battery operated. However, it is advisable to use the AC adapter when possible assuring you that your coin counting scale battery is fully charged at all times.
- 6. Note: The backlighting on the three LCD displays will shut down within 5 seconds after startup conserving battery life. Applying weight to the platter or use of function keys will instantly turn backlighting on.
- 7. See Page 9 for pre-set U.S. Coin settings.

AC Adapter Power Supply: AC 110V 50/60 Hz (DC 6V 4.5AH Rechargeable Battery) is found on the left hand side next to the on/off switch.

RS232 communications port is to be used for connecting to a printer or computer for coin or token data accumulation downloading. This port is located on the right hand underside of the scale. A standard 25-pin DIN connector male type is used to connect to the scale.

For wiring of the RS232 25-pin DIN connector, see page 12

### **BEST CONDITIONS FOR WEIGHING**

- The Scale must be level (check the spirit level on the Scale).
- Best temperature is about 20°C/68°F at about 50% Relative Humidity.
- The weighing room should be kept clean and dry.
- The weighing table must be of a solid construction.
- Corners of rooms are best as they are less prone to vibrations.
- Don't install the scale near heaters or air conditioners.
- Don't install the scale in direct sunshine.
- Try to ensure a stable AC power supply when using an adaptor.
- Keep equipment-containing magnets away from the scale.
- Warm-up the scale before use or leave it on standby overnight.
- Earth ground the scale chassis for electrostatic discharge if the weighing conditions warrant.

# **CALIBRATION**

KLOPP International Inc. has already done the calibration setup for your KCS Scale. Please see Page 17 for calibration information.

# **HOW THE SCALE COUNTS**

The KCS Scale counts by knowing the weight of one piece, called the *unit weight*, then applying it to the total weight of what you are trying to count. For example, if you are weighing nickels that have a unit weight of 4.987 and the batch weighs 498.7, the scale will tell you that you have 100 pieces. Sounds simple, but things rarely weigh exactly 1g and piece variations can add errors – plus you often have containers to hold the pieces and that weight must be discarded. The KCS Scale takes all the trouble out of counting and has many features that will make repeated counting easy and precise.

The two main methods to enter a unit weight and start counting: (See the table on Pages 6 thru 9.)

- 1. Unit Weight by the Keyboard
- 2. Unit Weight by an ID Number

# **KEYPAD FUNCTIONS**

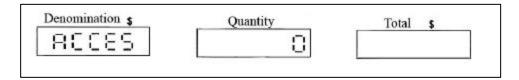
0	Keys used for entering unit weights of coins and tokens in "Coin Cal" mode.
1	Selects pre-programmed "denomination to be counted" keys.
Toke	Select token counting mode key. Note: The total accumulation window does not function in this mode. Also, use this key to enable/disable display screen backlight by holding it down until the scale beeps.
CE	Clear entry key.
Z	Zero key. The zero range is full scale capacity +/-2%.
Т	Key used to TARE out coin counting scoop. The TARE annunciator will be lit in the "Denomination" display window indicating that a TARE weight has been added.
	If the container is removed from the scale, the display will show "" in the "Quantity" and "Total" display windows. Pressing " <b>T</b> " again will clear the TARE function mode and the annunciator "4" symbol will disappear.
M+	Accumulation key and print data.
MR	Recall accumulation key.
MC	Clear accumulated value key.
Tota	Print key and print out accumulated data key.
PRI	Print key and print out all accumulated data in memory key.
Coin	Setting mode key to set denomination and token unit weights. Access

setting mode for changing or adding unit weights of coins or tokens.

# SETTING INDIVIDUAL UNIT WEIGHTS FOR NUMERIC KEYS TOKEN UNIT WEIGHT MODES

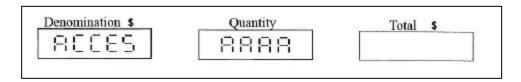
Pressing the | Coin Cal | key will display the following:

Note: If no other key is pressed, the scale will return to counting mode in 10 seconds.

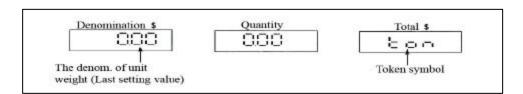


Press the "0" key four times. The display will show the following:

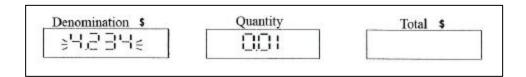
Note: If no other key is pressed, the scale will return to counting mode in 10 seconds.



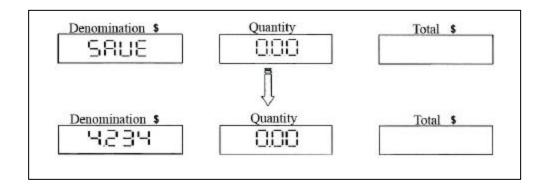
Pressing the Coin Cal key again will display the last token unit value weight or the denomination of unit weight (last setting value).



Then press the **Token** key. Pressing the **Coin Cal** key will display the flashing denomination. Use digits **0** thru **9** to input the new weight. NOTE: The unit weight is restricted to three decimal places. Pressing the **CE** key will clear the input or change the input of the numeric values.



Upon setting the corrected unit weight, press the Coin Cal key to confirm and place the new setting into memory.



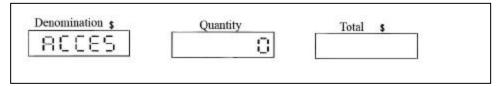
Use the above procedure to set all the denomination and token unit weights. Upon completion, all denominations settings are saved by pressing the **T** key. The scale will display zero in each window. Power the scale off, then on, to save settings.

To print all denominations of unit weight, press the **PRINT** key. The scale will then return to normal counting mode automatically after printing.

### **SETTING UNIT WEIGHTS MODES**

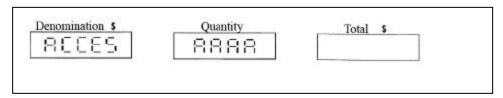
Pressing the | Coin Cal | key will display the following:

Note: If no other key is pressed, the scale will return to counting mode in 10 seconds.

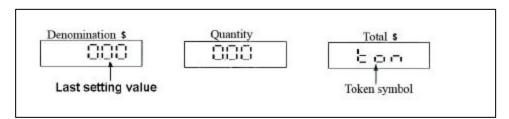


Press the "0" key four times. The display will show the following:

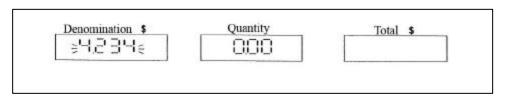
Note: If no other key is pressed, the scale will return to counting mode in 10 seconds.



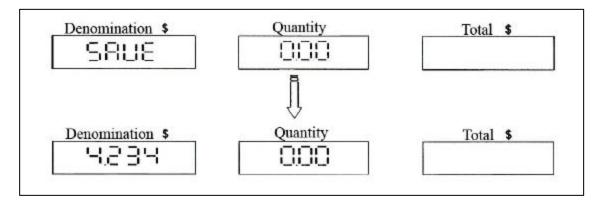
Pressing the **Coin Cal** key again will display the last token unit value weight or the denomination of window (last setting value) (or 000).



To select the denomination value of unit weight, select and press one of the 1 thru 9 keys. Pressing the Coin Cal key will display the following flashing denomination. Use key pad digits 0 thru 9 to input the new weight. NOTE: The unit weight is restricted to three decimal places. Pressing the CE key will clear the input or change the input of the numeric values.



Upon setting the corrected unit weight, press the Coin Cal key to confirm and place the new setting into memory.



Use the above procedure to set all the denomination unit weights. Upon completion, all denominations settings are saved by pressing the **T** key. The scale will display zero in each window. Power the scale <u>off</u>, then <u>on</u>, to save the settings.

To print all denominations of unit weight, press the **PRINT** key. The scale will then return to normal counting mode automatically after printing.

### **Pre-set U.S. Coin Settings:**

Key 1	\$ 1.00	8.000 grams	Key 4	10 cents	2.268 grams
Key 2	50 cents	11.260 grams	Key 5	5 cents	4.987 grams
Key 3	25 cents	5.652 grams	Key 6	1 cent	2.656 grams
				US Paper Currency	0.992 grams

### Establishing a per piece weight for the unknown weight of a token or ticket

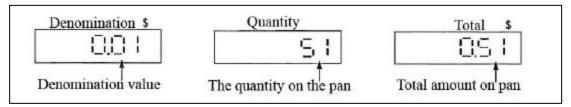
NOTE: See Page 17 for entering the standard weighing mode. Follow the steps outlined below:

- 1. Place 25, 50, or 100 pieces counted by hand on the weighing platter.
- 2. Write down the total weight displayed. (Example: 1.244 for 50 pieces)
- 3. Divide 1.244 by 50 = 0.0249 or 0.024
- 4. 0.024 is the per piece unit weight that can be entered in the piece weight or denomination key for this item.

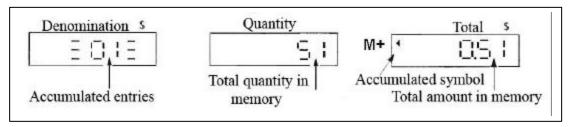
### **ACCUMULATION FUNCTION**

### **Accumulation** (In counting mode)

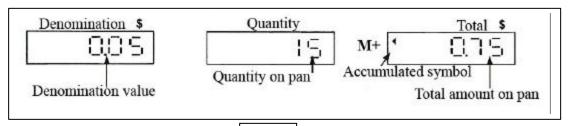
To select a denomination value, use the keys 1 thru 9. Place coins of the same value on the platter or in a coin scoop. The following will be displayed:



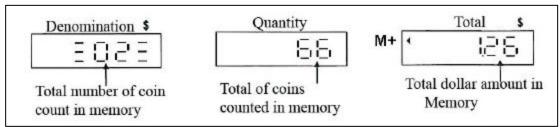
When the scale becomes stable (see arrow at bottom of "Total" window), press the M+ key. This will store the quantity and dollar value in memory. Once the following is displayed, remove coins from pan or coin scoop.



To input the next accumulation, select the specific denomination key 1 thru 6 (etc). Place coins of same value on the platter or in a coin scoop. The following will be displayed:



When the scale is stable, press the M+ key. This will store the information in memory. The following will be displayed:

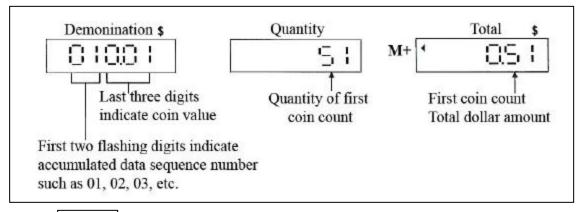


The above steps may be repeated, saving up to 25 accumulation counts.

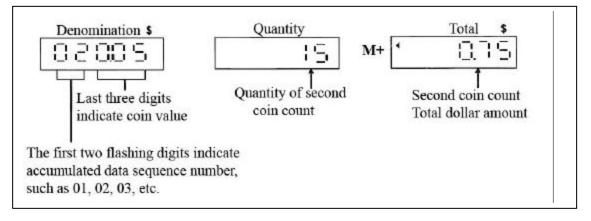
### **RECALL ACCUMULATION**

If there is an accumulation of data in memory, it will be indicated in the "Total" display window. Press the MR key. It will display "Accumulated data" and "Total Accumulated Data" in sequence.

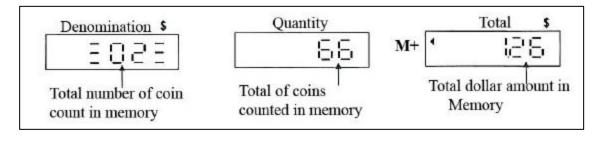
Press the MR key one time. It will show the first accumulated data. *Note: If no other key is pressed, the scale will return to counting mode in 10 seconds* 



Press MR key again. It will show the second accumulated data. *Note: If no other key is pressed, the scale will return to counting mode in 10 seconds* 



Press the MR key again. It will show the total accumulated data. *Note: If no other key is pressed, the scale will return to counting mode in 10 seconds* 



# **CLEARING ACCUMULATED VALUE**

If there is accumulation data in memory, it will be indicated in the "Total" window.

Press MC to clear accumulated data. The accumulation indicator will disappear at the "Total" display window.

# Wiring the RS232 25-Pin DIN Connector

### Pin Outs

Pin 1		Pin 11	
Pin 2*	Retrieve data	Pin 12	
Pin 3*	Transmit data	Pin 13	
Pin 4	Request to send	Pin 14	
Pin 5	Clear to send	Pin 15	
Pin 6	Data set ready	Pin 16	
Pin 7*	Common (ground)	Pin 17	
Pin 8		Pin 18	
Pin 9		Pin 19	
Pin 10		Pin 20	

• Indicates required pin connections

# **Serial (RS-232) Interface Settings:**

Baud Rate: 9600 bps
Data Bits: 8 bits
Hand Shake: DTR/DSR

Parity: No Parity

# **PRINT FUNCTION**

1. In the counting mode, when the scale is in stable, pressing the M+ key will transmit data to be printed. The print format is as follows:

Record 1
Denomination 0.01
Quantity 51
Amount \$ 0.51

2. To see totals of all accumulated data in memory of all items stored, press the key. The print format is as follows:

Record 2 Quantity 66 Amount \$ 1.26

These represent total records, total quantities, and total monies.

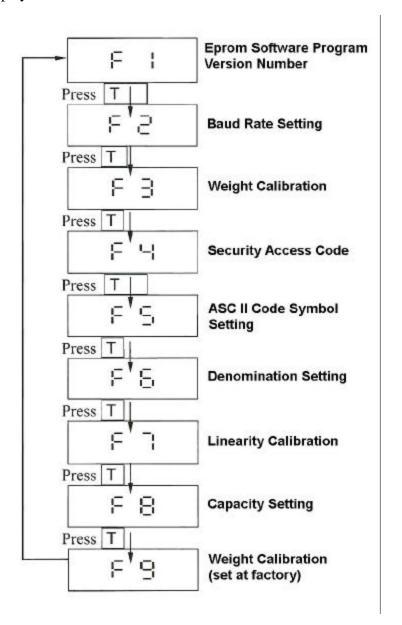
3. When there is accumulated data in memory, pressing the **PRINT** key will print out the following data format:

Record 1 0.01 Denomination Quantity 51 \$ Amount 0.51 2 Record Denomination 0.05 Quantity 15 Amount \$ 0.75 Total Quantity 66 Total Amount \$ 1.26

### "F" KEY FUNCTION DESCRIPTION

Press the M+ key and hold. Until F1 is displayed in the Denominations window Power the counting scale on. The scale will count back to zero and enter "Function Setting Mode".

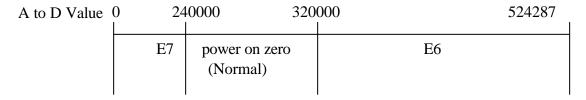
Press the **T** key in sequence. The Denomination display will show F1 thru F9 in a display window.



NOTE: F1 thru F4 are free setting in the window without putting the security jumper to "ADJUST" position. You will find the security jumper located on back of display panel

inside the scale. To locate, remove the four case screws found on the bottom cover of the scale. Separate the bottom case from the top case. The display board will be exposed.

### **Error Message Chart:**



Before adjusting linearity and completing weight calibration, the internal value counts should be within 240,000~320,000. Otherwise, please adjust resistor R1/R2 or change our the load cell.

E 1  $\Rightarrow$  Over power on ZERO + 10% total SPAN value.

E 2  $\Rightarrow$  Under power on ZERO – 10% total SPAN value.

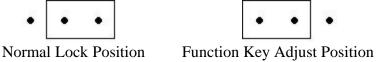
E 6  $\Rightarrow$  The internal value is over 320.000.

E 7  $\Rightarrow$  The internal value is under 240.000

-O L -  $\Rightarrow$  The max. capacity is over full capacity + 91 divisions.

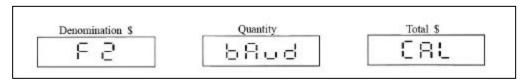
NOTE: Before entering the function key settings, please locate the SWA1 mini-jumper located on the top side of the main board, left of the aluminum RS232 shield. Be careful when separating the top and bottom covers as to not damage or loosen the ribbon cable from the key pad to the main board.

Move the jumper from Lock Position to the Adjust Position.

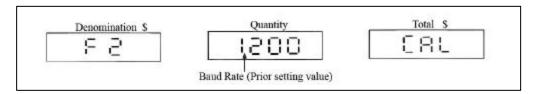


Upon completion of all function key settings, relocate the jumper to the normal lock position.

# F2 → Baud Rate Setting



Press the  $\boxed{0}$  key to display the prior setting value.



Press the T key to select the required band rate of 300, 600, 1200, 2400, 4800, or 9600 in the circle.



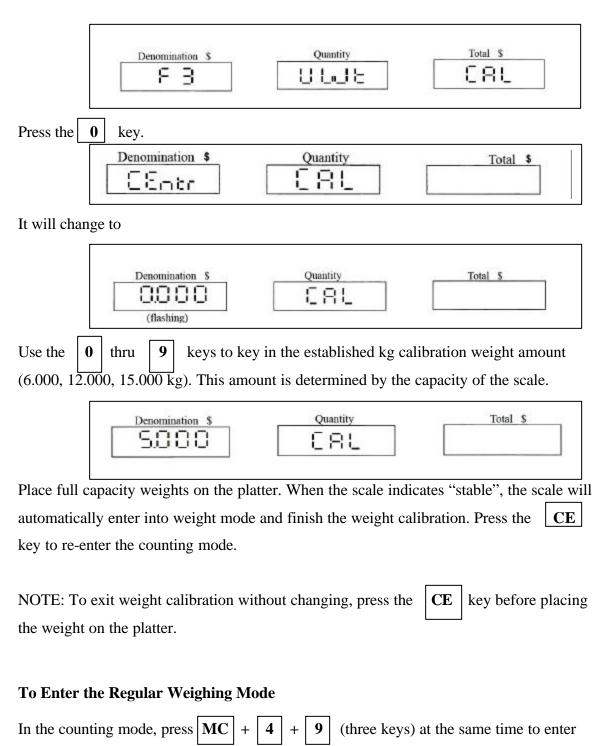
Press the M+ key to save and store the selected baud rate. The scale will automatically count back to zero, finishing the baud rate setting.

NOTE: To change, press the **F** key to escape before storing the indicated rate.

# F3 — Weight Calibration

the weight mode. Press the |MC|

counting mode.

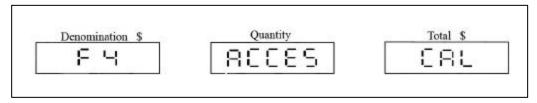


key, followed by the | CE |

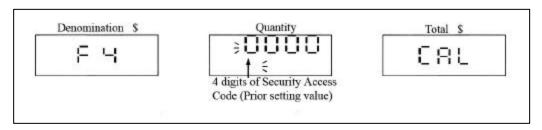
key to return to the

# F4 -- Security Access Code

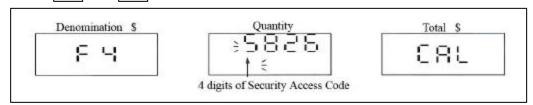
Before entering the Coin Cal function, key in 4 digits to establish the security access code number. The factory setting is "0000". Use the following procedure to reset.



Press the **0** key to show the prior setting value.



Use the  $\boxed{1}$  thru  $\boxed{9}$  keys to input the new security access code number.



Press the  $\boxed{M+}$  key to save the setting. The scale will automatically count back to zero completing the process.

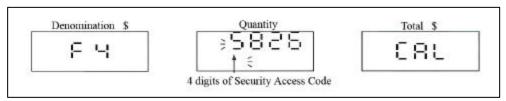
Press the M+ key to save the new security access code number. If the keyed-in value is incorrect, press the CE key to reset before saving the new number.

To delete the changed security access code setting number, press the **F** to escape prior to saving.

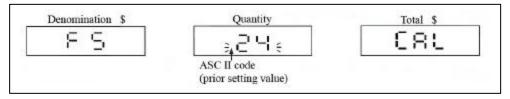
# F5 — ASC II Code Symbol Settings

The coin symbol is set by ASC II code numbers as follows.

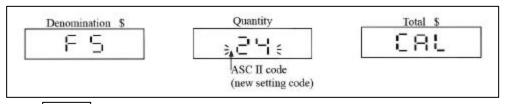
"\$" = ASC II code 24



Press the **0** key. It will show the present setting value.



Use the keypad digit code numbers to ASCII code chart symbol as desired. Press the appropriate key following the ASCII code table list for reference.



Press the M+ key to save the setting. The scale will automatically count back to zero saving the setting.

- If input was incorrect, press the **CE** key to reset it before saving.
- To escape the change, press the **F** key before saving.

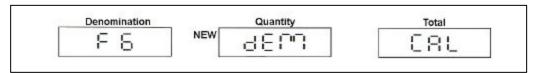
### ASC II Code Table List

7	8	9	Total	M+		7	8	9	A	
.10	.05 5	.01 6	PRINT	MR	_	4	5	6	В	E
\$1.00	.50 2	.25	Coin Cal	МС		1	2	3	С	F
Token 0	F	CE	z	т		0			D	

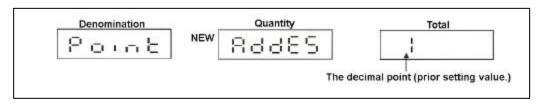
# F6—— <u>Denomination Setting</u>

Digits **0** thru **9** or total for 10 key pad locations can be set with 10 different types or amounts, denomination, values (Example 0.50¢, 1.00, etc).

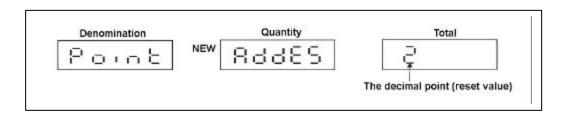
Use the  $\boxed{\mathbf{T}}$  key to move from F1 to F6.



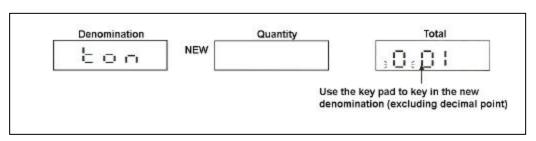
Press the **0** key.



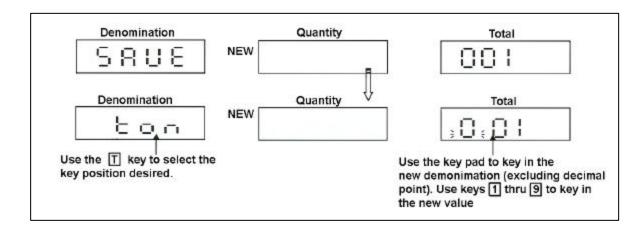
To use digit  $\begin{bmatrix} \mathbf{0} \end{bmatrix}$ ,  $\begin{bmatrix} \mathbf{1} \end{bmatrix}$ ,  $\begin{bmatrix} \mathbf{2} \end{bmatrix}$  key to key in decimal point 0 (no decimal point), or 1 (1 place decimal), or 2 (2 place decimal).



Press the M+ key.



Press M+ key to SAVE.



Press M+ to save.

After completing the setting, press the  $\boxed{\mathbf{F}}$  key and the scale will count back to zero, saving the setting.

### Examples:

Denomination  $0 \Rightarrow$  If there is no decimal points used, the value will key in as (200.)

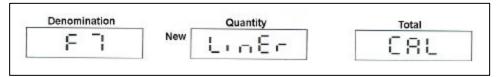
Denomination  $1 \Rightarrow$  If there is 1 decimal point used, the value will key in as (20.0)

Denomination  $2 \Rightarrow$  If there are 2 decimal points used, the value will key in as (2.00)

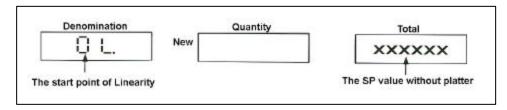
# F7 <u>Linearity Calibration</u>

The linearity setting is selected by using four points along a weighing sequence.

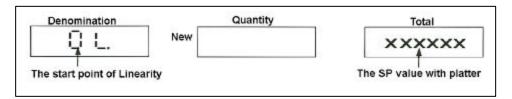
Press the **T** key and move to **F7** Display in the denomination window.



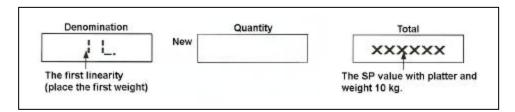
Remove the platter from the scale and set aside. Press the  $\boxed{\mathbf{0}}$  key.



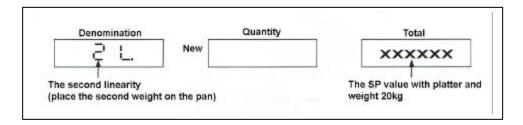
Replace the platter on the scale.



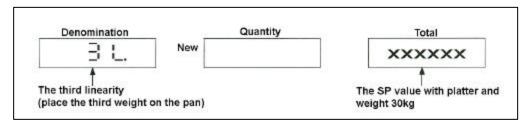
Press the **F** key to record the first value. When the scale is stable (Denomination display shows | L.), place the first weight 10kg on the pan.



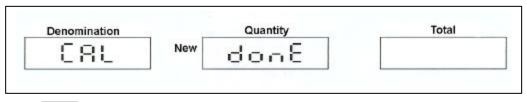
Press the **F** key to record the first linearity value. When the scale is stable, (Denomination display shows 2 L.), place the second weight 10kg on the pan.



Press the **F** key to record the second linearity point. When the scale is stable, (Denomination display 3 L.), place the third weight 10kg on the pan.



Press the **F** key to record the third linearity point. When the scale is stable, take off the weight on the pan before the scale counts back to zero. The linearity calibration is now complete.

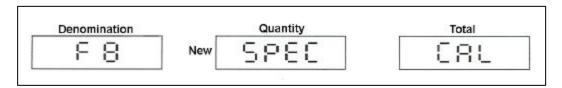


Use the **9** key to escape linearity calibration and return to the counting mode.

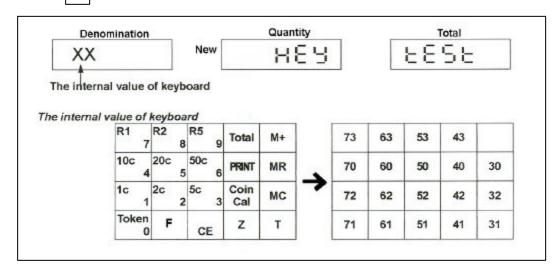
NOTE: The above procedure is for the 30kg scale base. For a 15kg scale, use 3 pieces of 5kg weights, following the same sequence. For a 30kg scale, use 3 pieces of 20kg weights or a combination of 5kg and 10kg weights totaling 20kgs, following the same sequence.

# F8 ----- Specification Setting

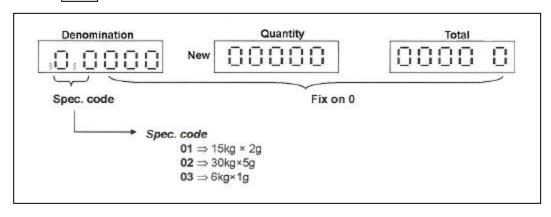
Press the **T** key and move to **F8** display in the Denomination window. This procedure is used to set the internal values for the key pad and setting the capacity and min graduation of the counting scale.



Press the  $\boxed{\mathbf{0}}$  key. Entering to keyboard test mode.



Press the M+ key. Key in digit "01" or "02".



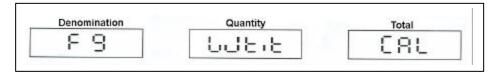
Press M+ key.



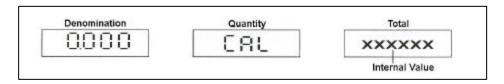
Press the M+ key and the scale will count back to zero. The scale specification setting is completed.

# F9 → Weight Calibration (Set at Factory)

Press the  $\boxed{\mathbf{T}}$  key to move to the  $\boxed{\mathbf{F9}}$  display in the Denomination window.

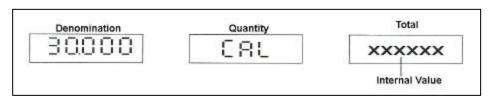


Press the  $\boxed{\mathbf{0}}$  key.

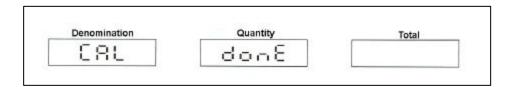


NOTE: Make sure there is no weight on the platter.

Press the M+ key when the scale is in stable. The weight display will show full capacity value.



Place a weight (6kg, 15kg or 30kg) (full capacity) on the weight platter. Press the M+ key. When the scale is in stable, take the weight off the platter before the scale counts back to zero. The weight calibration is now complete.



NOTE: Use a 6kg weight for calibration of a 6kg Coin Scale. Use a 15kg weight for calibration of a 15kg Scale, and a 30kg weight for a 30kg Scale.