

# SF/SG Series Price Computing Scales

## Instruction Manual



SG Series



SF Series

# SF/SG Series Instruction Manual

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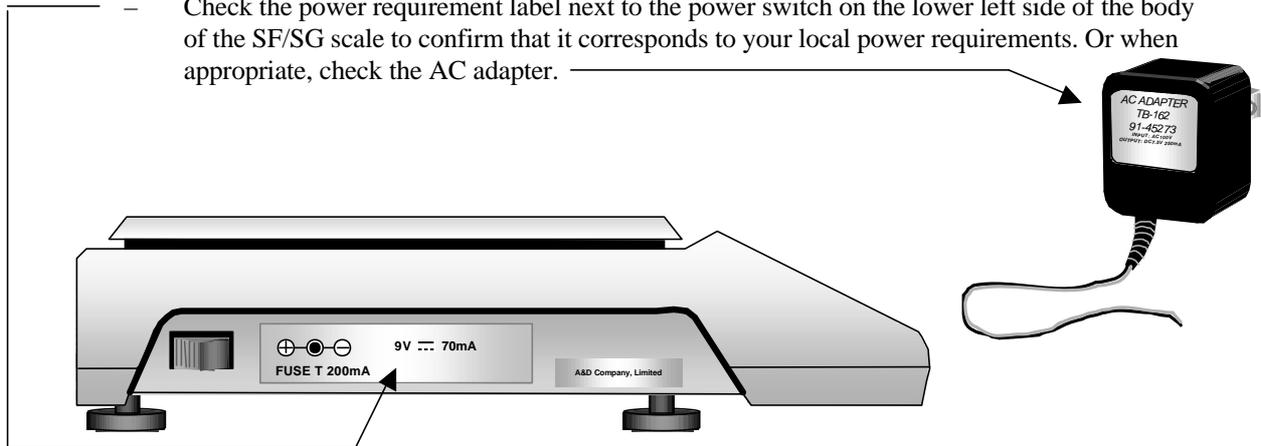
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# Thank You...

Thank you for purchasing our A&D SF/SG Series price computing scale. *Before using your price computing scale, please read the operating instructions.*

## Warning before connecting power plug:

- Do not place a load on the weighing pan before connecting the power supply.
- Check the power requirement label next to the power switch on the lower left side of the body of the SF/SG scale to confirm that it corresponds to your local power requirements. Or when appropriate, check the AC adapter.



## • Unpacking and inspecting

- The SF/SG price computing scales are precision instruments. Please handle them with care.
- Please inspect your SF/SG scale when unpacking. Retain the shipping container in the event that you need to transport the unit in the future.
- The following items should be included in your shipping container:
  - SF/SG price computing scale.
  - AC power adapter (except SF-A).
  - Optional rechargeable battery (SF-C), if ordered.
  - Optional RS-232C, if ordered.
  - Instruction manual.
  - Various models are capable of using rechargeable or 6 D size replaceable batteries. D size replaceable batteries are not shipped with the unit and must be purchased locally:
    - SF-6KA, 15KA, 30KA AC only
    - SF-6KB, 15KB, 30KB AC adapter (D size capable)
    - SF-6KC, 15KC, 30KC AC adapter (rechargeable battery capable)
    - SG-6KA, 15KA, 30KA AC adapter (D size capable)

## • Power ratings

- SF-A 230VAC 50/60hz 6VA or 120VAC 50/60hz 6VA, fuse t200ma
- SF-C 9VDC 500ma, fuse T1A
- SF-B/SG 9VDC 70ma, fuse t200ma

# SF/SG Series Specifications

## Specification Table

Model	Capacity	Display	Type	AC Type	Battery Type	Price Lookup Capability	Options
SF- 6KA	6 kg x 2 g	VFD	Tower	AC hardwired	None	30	RS-232C
SF-15KA	15 kg x 5 g	VFD	Tower	AC hardwired	None	30	RS-232C
SF-30KA	30 kg x 10 g	VFD	Tower	AC hardwired	None	30	RS-232C
SF- 6KB	6 kg x 2 g	LCD	Tower	AC adapter	6 D size	30	RS-232C
SF-15KB	15 kg x 5 g	LCD	Tower	AC adapter	6 D size	30	RS-232C
SF-30KB	30 kg x 10 g	LCD	Tower	AC adapter	6 D size	30	RS-232C
SF- 6KC	6 kg x 2 g	VFD	Tower	AC adapter	Rechargeable*	30	RS-232C
SF-15KC	15 kg x 5 g	VFD	Tower	AC adapter	Rechargeable*	30	RS-232C
SF-30KC	30 kg x 10 g	VFD	Tower	AC adapter	Rechargeable*	30	RS-232C
SG- 6KA	6 kg x 2 g	LCD	Table top	AC adapter	6 D size	12	RS-232C
SG-15KA	15 kg x 5 g	LCD	Table top	AC adapter	6 D size	12	RS-232C
SG-30KA	30 kg x 10 g	LCD	Table top	AC adapter	6 D size	12	RS-232C

**\*Note:**

1. Rechargeable batteries are sold as an option.
2. D size batteries are not included with the unit and must be purchased locally.

<b>Display:</b>	Numerical Digits		<b>Resolution:</b>	1/3000
	<u>LCD Type</u>	<u>VFD Type</u>		
Weight Display:	5	5	<b>Sensor:</b>	Strain gauged load cell
Price Display:	7	7		
Unit Price Display:	6	6		

**Character Size:**

Weight Display:	18 mm	13 mm
Price Display:	20 mm	13 mm
Unit Price Display:	18 mm	13 mm

**Weighing Pan Size:**

300 mm x 280 mm

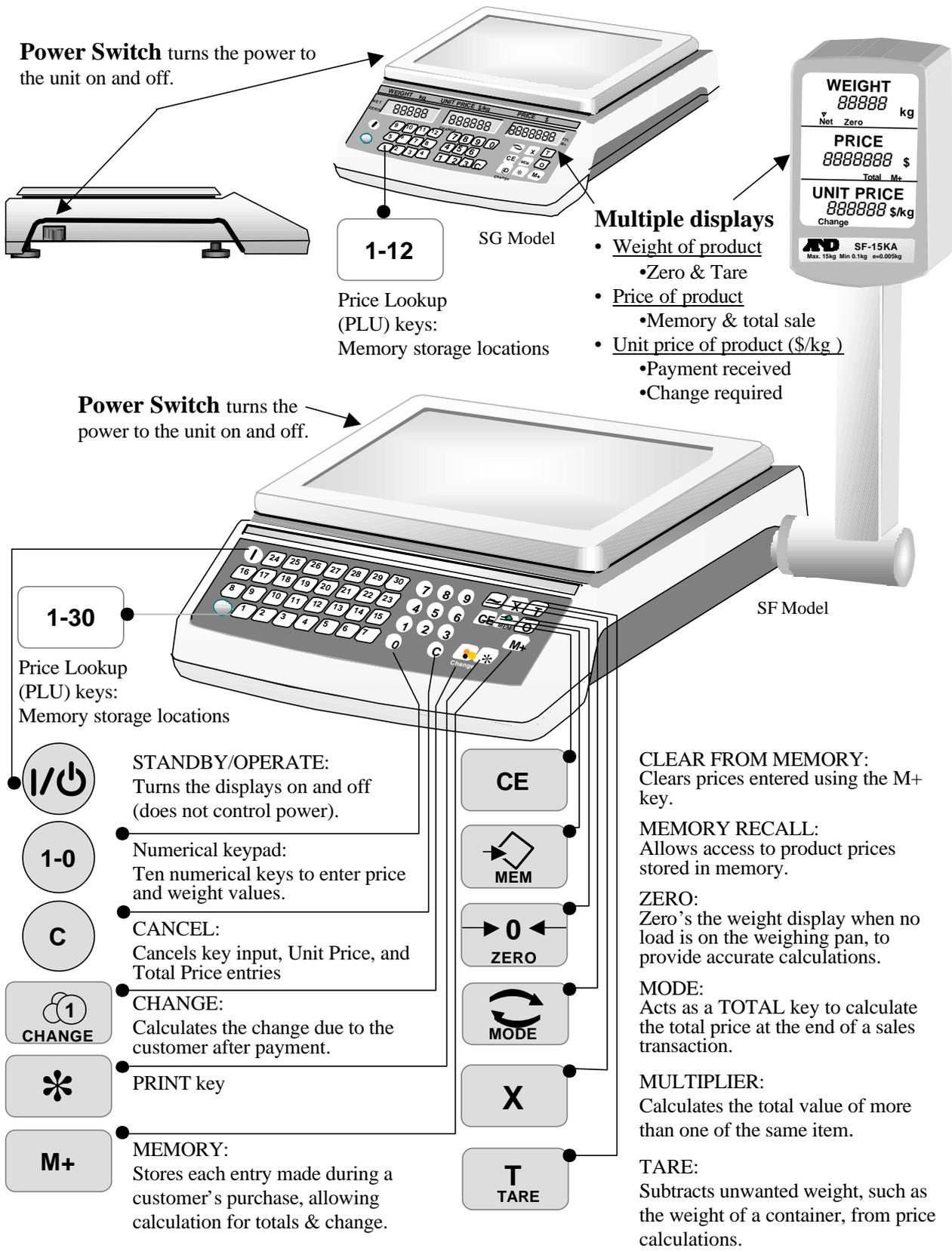
**Physical Weight of the Scale:**

SF Series	Approximately 5.5 kg
SG Series	Approximately 4.5 kg

**Operating Temperature:**

-10°C to 40°C / 14°F to 104°F; RH less than 85%

# SF/SG Series Main Operating Components



# SF/SG Series Operating Instructions

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## 1. Zero Point Adjustment

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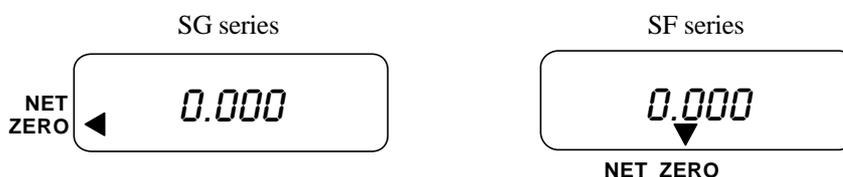
The zero point is automatically adjusted when power is turned on. If the display shows a positive or negative weight, the scale must be re-zeroed.

### How to re-zero:

**Step 1:** Assure that nothing is on the weighing pan.

**Step 2:** Press  .

**Step 3:** The WEIGHT display should read:



## 2. Tare Adjustment

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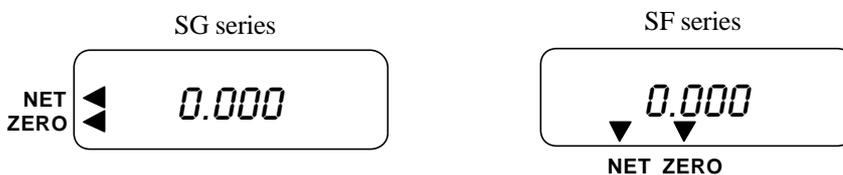
When weighing with a container, it is necessary to TARE out the weight of the container in order to get an accurate price/weight reading.

### How to operate TARE:

**Step 1:** Place an empty container (e.g., 100 g) on the weighing pan. The display reads “ 100 ”.

**Step 2:** Press  .

**Step 3:** The WEIGHT display should read:



**Step 4:** When removing the container from the pan, the display reads “ -100 ”.

### Note:

When a TARE weight has been set, it is not possible to set a new TARE weight of a lower value by the procedures above. It is necessary to delete the previous TARE first, before entering a TARE of lower value.

# SF/SG Series Operating Instructions

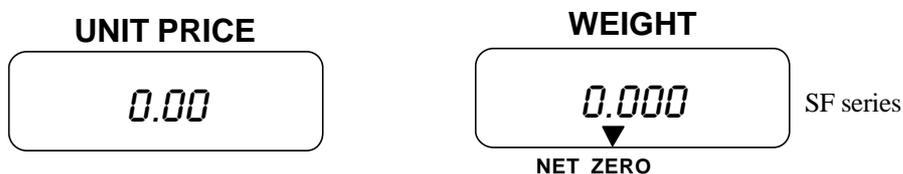
## 3. Keypad Tare Entry

**Note:** Usually this function is inhibited. If necessary, please ask your dealer.

In addition to the tare adjustment described on the previous page, another tare adjustment is available. It is to enter a TARE value with the numerical keypad.

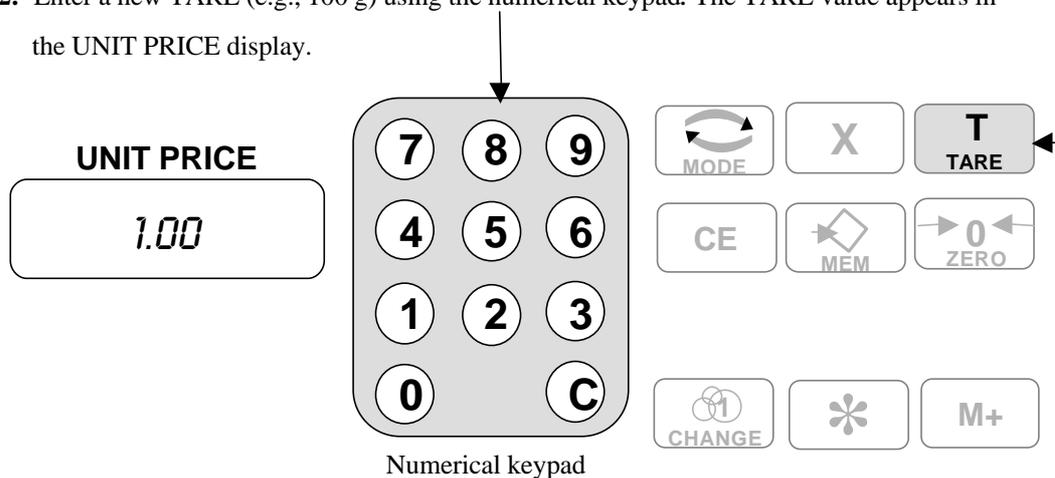
### How to enter a TARE using the numerical keypad:

**Step 1:** With nothing on the weighing pan, turn on the SF/SG scale.  
The display should read:



If a unit price has previously been entered, the display may read, for example “2.00”, instead of “0.00”. This is OK.

**Step 2:** Enter a new TARE (e.g., 100 g) using the numerical keypad. The TARE value appears in the UNIT PRICE display.



**Step 3:** Press the TARE key.

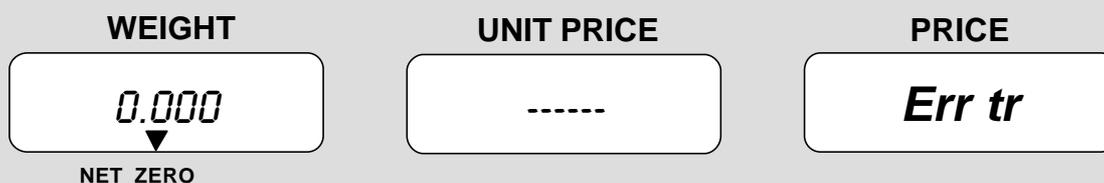
The new TARE appears in the WEIGHT display.



# SF/SG Series Operating Instructions

## Note about keypad tare entry:

- When a TARE weight has been set, an error message “ *Err tr* ” will appear as shown below, if you enter a lower value than the TARE weight.
- If you enter a TARE weight greater than the weighing capacity of the scale, an error message “ *Err tr* ” will appear as shown below.

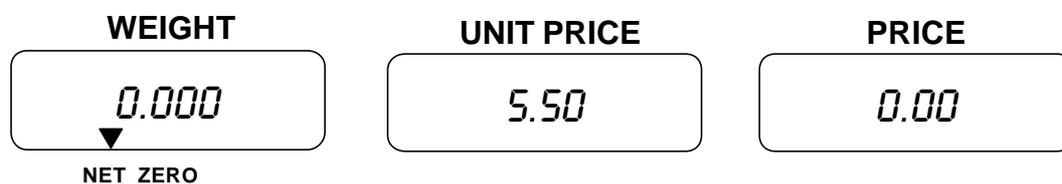


- To release the error shown above, press  to return to the weighing mode.
- Any previous TARE entries will be cancelled when  is pressed.
- To cancel a TARE weight that has been entered, remove any weight from the weighing pan and press .

## 4. Setting a Unit Price

**Step 1:** Enter a unit price using the numerical keypad. Up to 6 digits may be entered.

**Example:** Enter a unit price of \$5.50



**Step 2:** Unit price entry must be completed within 3 seconds. Any delay beyond 3 seconds will require the unit price to be re-entered.

# SF/SG Series Operating Instructions

## 5. Storing a Unit Price in Memory

Unit prices can be stored in memory for quick recall, by assigning a unit price to a Price Lookup (PLU) key. The SF series scale has 30 PLU keys, thus can store 30 unit prices. The SG series scale has 12 PLU keys, thus can store 12 unit prices.

Assign a unit price to a PLU key as follows:

**Step 1:** Enter a unit price using the numerical keypad.

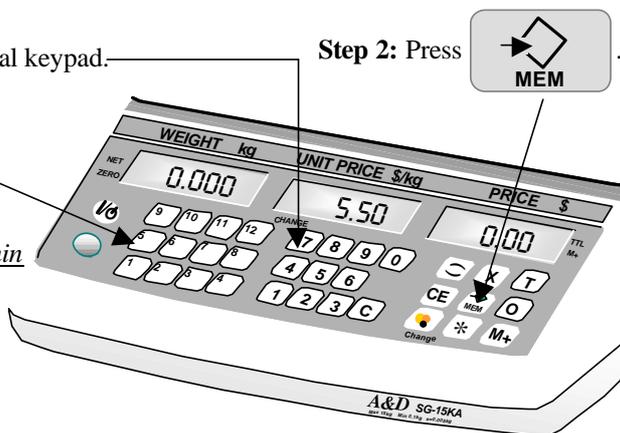
**Step 2:** Press



**Step 3:** Press the desired PLU key within 3 seconds of entering the unit price.

*( If you do not select a PLU key within 3 seconds, a beep will sound ).*

The unit price is now stored in the selected key.



## 6. Recalling a Unit Price from Memory

**Step 1:** Press the desired PLU key

## 7. Totaling Multiple Items with Unit Prices Stored in PLU Memory

**Note:** The totaling function is not available in some countries.

**Example:** Obtain the total price of two items (A and B) purchased.

A. Weight 1000 g, Unit Price= \$ 5.00 / 100g, PLU key #1

B. Weight 5000 g, Unit Price= \$10.00 / 100g, PLU key #2

**Step 1:** With nothing on the weighing pan, assure that the WEIGHT display reads “0.000”.

**Step 2:** Place Item A on the weighing pan.

**Step 3:** Select an appropriate PLU key, PLU key #1, in this example.

**Step 4:** Press  to add the purchase to be totaled.

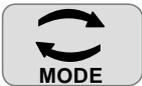
**Step 5:** Remove the item from the weighing pan. Place Item B on the weighing pan.

Select an appropriate PLU key, PLU key #2, in this example.

Press  to add the purchase to the total in memory.

# SF/SG Series Operating Instructions

## Final Step - Recalling the TOTAL

Press . Each display reads:

WEIGHT	UNIT PRICE	PRICE
TOTAL	2	550.00
Totaling Indication (TOTAL mode)	Total Number of items calculated	Total Price

## 8. Clearing Totaling Memory

**Step 1:** While in the TOTAL mode, press .

### Note about Totaling Items:

- The numerical keypad, PLU keys, and  MULTIPLIER key may all be used during a single transaction. (See "9. Multiplier Function" below.)
- An item must be removed from the weighing pan before another item can be weighed and entered into totaling memory. ***The WEIGHT display must return to zero to re-set for next weighing.***
- The SF/SG scale has an automatic power off capability. If there is a long delay in the middle of a transaction which causes the scale to shut off, press . The displays read 0s. Press  to display the total last calculated. Additional items may now be calculated into the total.

## 9. Multiplier Function (Max. pieces allowed = 99; Max. unit price = 999999)

**Note:** The multiplier function is not available in some countries.

Not all items are sold by the weight. Items such as canned goods and apples may be sold by the piece.

The SF/SG scale allows the operator to calculate all items purchased, those that require weigh/price calculation and those that are sold by the piece, and provides the total price.

The Multiplier Function allows the operator to enter, into the scale, how many of a given item to be calculated, as a multiplier.

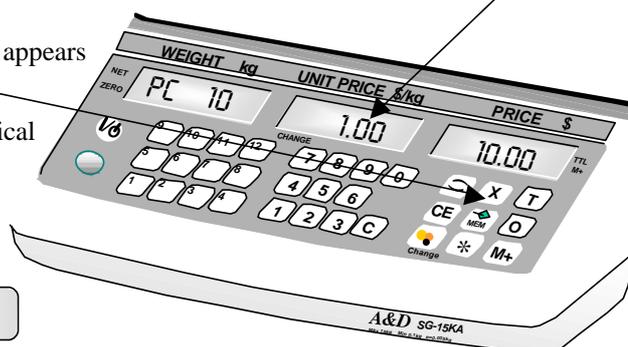
**Example:** A customer purchases 10 cans of tuna fish at a cost of \$1.00 per can.

**Step 1:** Enter the unit price using the appropriate PLU key, or the numerical keypad. The unit price is displayed.

**Step 2:** Press the MULTIPLIER key. "PC" appears in the WEIGHT display.

**Step 3:** Enter the multiplier using the numerical keypad. 10 in this example.  
Each display reads:

WEIGHT	UNIT PRICE	PRICE
PC 10	1.00	10.00



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## 10. Calculating the Correct Change

The purpose of this function is to allow the operator to determine the correct change to return to the customer once payment has been made.

**Example:** There have been 4 entries and the total cost of the transaction is \$80.00.

**Step 1:** Press . The scale displays:

WEIGHT	UNIT PRICE	PRICE
TOTAL	4	80.00

**Step 2:** Enter the customer payment using the numerical keypad (Example: \$100)

The scale displays:

WEIGHT	UNIT PRICE	PRICE
RECEIU	100.00	80.00 TOTAL M+

**Step 3:** Press . The scale displays:

WEIGHT	UNIT PRICE	PRICE
	20.00	CH TOTAL M+

**Note:** Press  if an error is made while entering the amount of money received from the customer.

## 11. Clear Entry Function

The CE key is designed to clear the last entry made using the  key, which places entries into memory for totaling.

**Step 1:** You have entered a value with the M+ key and wish to cancel it.

**Example:** Assume that you entered 3 values totaling \$55.00. The last (3rd) entry was \$10.00.

**Step 2:** Press . The scale displays:

WEIGHT	UNIT PRICE	PRICE
TOTAL	3	55.00 TOTAL M+

**Step 3:** Press . The scale displays:

WEIGHT	UNIT PRICE	PRICE
TOTAL	2	45.00 TOTAL M+

**Note:** • Only the last M+ entry can be cleared from memory using the CE key.

• Pressing the  key while in the **TOTAL mode** will delete **all** entries in memory.

• Pressing the  key will also delete:

1. Active PLU entries.
2. Active numerical keypad entries.
3. Active  key entries.
4. Improper entry of money received from a customer.

Pressing the  key will not delete:

WEIGHT	UNIT PRICE	PRICE
PC	0.00	00.00

entries.

(The condition in step 2 in "9. Multiplier Function")

Press  to cancel this operation.

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## 12. Automatic Cancellation of a Unit Price

In very busy applications, it may be more convenient for the Unit Price entry to return to zero after each operation.

**Note:** To use this function, F2 must be set to 0. Refer to “13. Setting ‘F’ Functions”.

To do this, press  while the display is in normal operation.

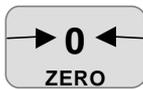
<b>WEIGHT</b> 	<b>UNIT PRICE</b> 	<b>PRICE</b> 	Automatically clears the unit price.
		TOTAL M+	

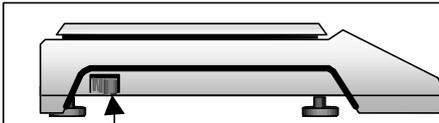
<b>WEIGHT</b> 	<b>UNIT PRICE</b> 	<b>PRICE</b> 	Does not automatically clear the unit price.
		TOTAL M+	

While the display shows the above, press  again to change the setting.

## 13. Setting ‘F’ Functions

‘F’ functions allow the programming of various functions of the SF/SG scale. The following is a brief description of these functions and how to program them.

**Step 1:** Starting with the power off, press and hold  and turn on the power switch.



The scale displays:

<b>WEIGHT</b> 	<b>UNIT PRICE</b> 	<b>PRICE</b> 
		TOTAL M+

**Step 2:** Press  to select the desired ‘F’ function group.

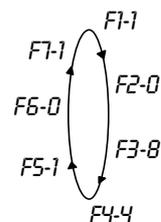
<b>UNIT PRICE</b> 
-----------------------

**Step 3:** Use the numerical keypad to select a setting for each function.

Press  to cancel the selection.

Press  to move to the next ‘F’ function.

Press  to store each setting selected.



‘F’ Functions *continued...*

# SF/SG Series Operating Instructions

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Settings

F1: Auto display off	0: Yes	1: No	
F2: Cancellation of unit price	0: Selectable	1: No	2: Yes
F3: Output Data (Refer to the note below.)	0: Key trigger mode 1	1: Key trigger mode 2	
	2: Command mode	3: Stream mode	
	4: Key trigger mode 3 with delay		
	5: Key trigger mode 3 without delay		
	6: Not used	7: Not used	
F4: Baud Rate	0: 600 bps		1: 1200 bps
	2: 2400 bps	3: 4800 bps	4: 9600 bps
	F5: Parity Bit		
F6 and F7: Not used	Normally F6=0, F7=1		

**Note:** A scale that has totaling and multiplier functions can use F3 = 4 or 5.

F3=8 is used when the SF/SG scale is connected to an AD-8124 label printer.

# SF/SG Series Operating Instructions

## 14. Connecting the Scale to the AD-8124 Label Printer

### Note about Connection to the AD-8124

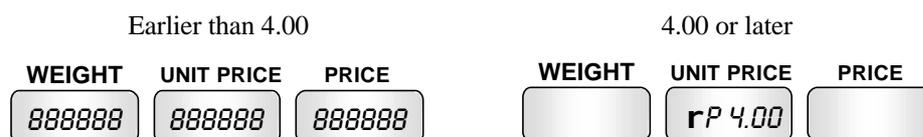
- To connect the SF/SG scale to the printer, use an RS-232C crossover cable (D-Sub 9-pin socket type) such as an AX-KO1371-200 (2 m).
- To get optimum performance from the AD-8124, use the SF/SG program version “**rp 4.00**” or later. Some functions can not be used with the earlier versions, such as the PLU number printing, printer internal clock setting and scale PLU unit price data changing.
- The totaling function and multiplier function of the SF/SG scale can not be used.
- When an item is weighed and the data is sent to the printer, the next data transmission is not available until the item is removed from the scale.

### 14-1 Confirming the SF/SG Program Version

Confirm the SF/SG program version as follows:

**Step 1:** While holding down the ZERO key ( **0** ) of the numerical keypad , turn the power switch on.

**Step 2:** When “**888888**” appears, the scale program version is earlier than 4.00. When “**rp XXX**” appears, the scale program version is 4.00 or later.



### 14-2 Setting the “F” Functions

Set the “F” functions depending on the scale program version as follows:

**Program version 4.00 or later:**

- |                 |                    |      |
|-----------------|--------------------|------|
| (1) Output mode | Label printer mode | F3=8 |
| (2) Baud rate   | 9600 bps           | F4=4 |
| (3) Parity bit  | 8 bits (No parity) | F5=1 |

**Program version earlier than 4.00:**

- |                 |                    |      |
|-----------------|--------------------|------|
| (1) Output mode | Key trigger mode 1 | F3=0 |
| (2) Baud rate   | 9600 bps           | F4=4 |
| (3) Parity bit  | 8 bits (No parity) | F5=1 |

# SF/SG Series Operating Instructions

## 14-3 Setting the printer internal clock

Set the printer internal clock as follows:

**Example:** Set the clock to 9:45, June 10, 2001.

**Step 1:** While holding down , turn the scale's power switch on. All the displays indicate "-----" as shown below:



Assure that the printer power switch is turned on.

**Step 2:** Enter the date and time using the numerical keypad. Enter 4 digits for the year, 2 digits for the month, 2 digits for the day, 2 digits for the hour in 24-hour format and 2 digits for the minute, in that order to send the data to the printer. The printer prints the date in the order it receives the data.

**Note:** The time will not be printed.

To print the date in the Year - Month - Day order, go to step 3.

To print the date in the Month - Day - Year order, go to step 5.

To print the date in the Day - Month - Year order, go to step 7.

**Step 3:** Using the numerical keypad, enter "2", "0", "0", "1", "0", "6", "1", "0", "0", "9", "4" and "5" in this order. If an error is made, press  to clear the values. And re-enter the values.

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**Step 4:** Press the PLU 1 key. The data will be sent to the printer and the scale will return to the normal weighing mode. If the scale will not return to the normal weighing mode, check the values entered.

**Step 5:** Using the numerical keypad, enter "0", "6", "1", "0", "2", "0", "0", "1", "0", "9", "4" and "5" in this order. If an error is made, press  to clear the values. And re-enter the values.

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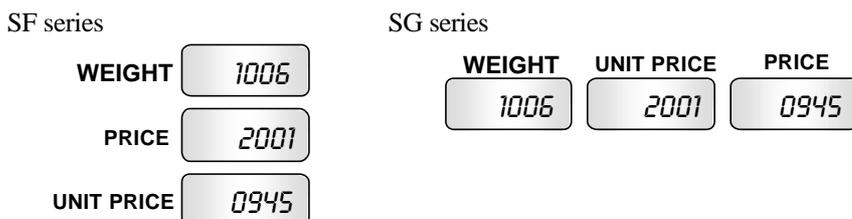
AD-8124 *continued...*

# SF/SG Series Operating Instructions

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**Step 6:** Press the PLU 2 key. The data will be sent to the printer and the scale will return to the normal weighing mode. If the scale will not return to the normal weighing mode, check the values entered.

**Step 7:** Using the numerical keypad, enter “1”, “0”, “0”, “6”, “2”, “0”, “0”, “1”, “0”, “9”, “4” and “5” in this order. If an error is made, press  to clear the values. And re-enter the values.



**Step 8:** Press the PLU 3 key. The data will be sent to the printer and the scale will return to the normal weighing mode. If the scale will not return to the normal weighing mode, check the values entered

## 14-4 Combining the designed data with a PLU number

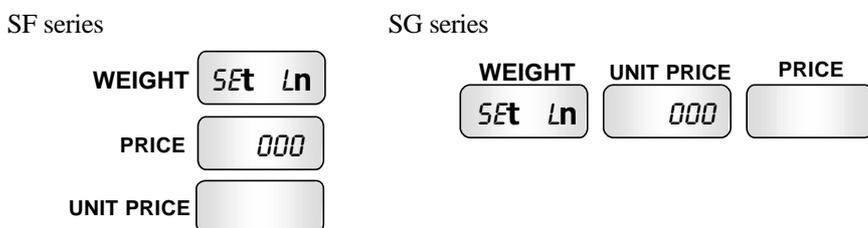
Assign a PLU number to a label number of the designed data stored in the AD-8124 as follows:

**Note:**  
The label numbers are the same as the PLU numbers at the time of printer shipment.

**Example:** Assign the PLU number 5 to the label number 12.

**Step 1:** While holding down , turn the scale’s power switch on. Assure that the printer power switch is turned on.

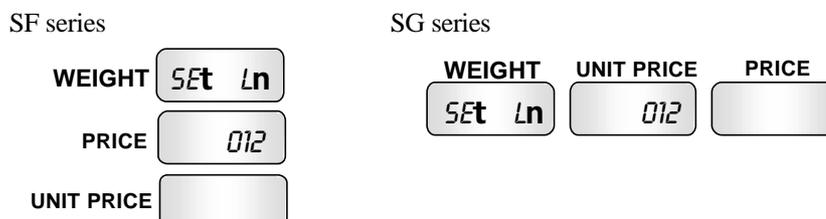
The WEIGHT display reads “**SEt Ln**”. A 3-digit label number “000” appears in the PRICE display for the SF series scale and in the UNIT PRICE display for the SG series scale.



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**Step 2:** Using the numerical keypad, enter a 3-digit label number. If an error is made, press **C** to clear the values. And re-enter the values.



**Step 3:** Press the PLU key to assign to the label number, in this example, the PLU 5 key. . The PLU number will be sent to the printer and the scale will return to the displays described in step 1. If the label number is “000”, it will not be sent to the printer.

**Step 4:** Repeat steps 1 through 3 as necessary.

**Step 5:** After the setting has been completed, turn the power switch off.

## 14-5 Changing the scale PLU unit price data

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Using the PLU software provided with the AD-8124, the PLU unit price data, stored in the scale, can be changed via the AD-8124 using a personal computer.

If the data sent to the scale via the AD-8124 is not appropriate, “Err 10” appears in the UNIT PRICE display. To release the error, press **C**. Then, re-send the data to the scale.

For details about changing the scale PLU unit price data using the PLU software, refer to the AD-8124 label printer instruction manual.