

Price Computing Scale Price Computing Series Operation Manual



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INTRODUCTION

We wish to thank you for your purchase of our Price Computing Scale. This instrument has been designed and manufactured within the U.S.A. with quality and reliability.

This manual will help acquaint you with the features of this instrument, its proper installation, adjustment, operation and care. Please read this manual before attempting to operate this scale and keep it handy for future reference.

FCC COMPLIANCE STATEMENT

WARNING! This equipment generates, uses and can radiate radio frequency and if not installed and used in accordance with the instruction manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area may cause interference in which case the user will be responsible to take whatever measures necessary to correct the interference.

You may find the booklet "How to Identify and Resolve Radio TV Interference Problems" prepared by the Federal Communications Commission helpful. It is available from the U.S. Government Printing Office, Washington, D.C. 20402. Stock No. is 001-000-00315-4.

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SPECIFICATIONS

Power Requirements:	115 VAC, 50/60 Hz (Optional 230 VAC, 50/60 Hz); powering a 12 VDC, 700 mA wall-plug-in power module	
Dimensions:	Base: 13 1/2"W x 12"D x 4 1/4"H (343mmW x 305mmD x 108mmH) Platform: 13 1/2"W x 8 3/4"D (343mmW x 222mmD)	
Weight:	14 lb (6.35 kg)	,
Operating Temperature:	14° F - 114° F (-10° C 40° C)	
Weighing Accuracy:	This equipment is manufactured recommendations set forth by H United States Department of Co Standards and Technology.	d in accordance with the landbook #44, issued by the ommerce, National Institute of
Color:	Black and gray with color codec	l keypad
Load Cell:	Single point strain gage	
Price Look Ups:	100 keypad programmable PLL (retained in memory when pov	l numbers. ver is off)
Accumulator:	Accumulates multiple transaction	ons up to \$9999.99 total
Tare:	Keypad and push button	
Calibration:	Keypad entered	
Display:	16 character .56" high red LED A. Weight: up to 5 digits B. Unit Price: up to 5 digits C. Total Price: up to 6 digits	front and rear
Annunciators:	<i>Ib version</i> Zero Net Prepack Price per 1 lb	<i>kg version</i> Zero Net Prepack Price per 1 kg Price per 100 g
		Price ger 250 g
Serial Output:	 A. RS-232 (Selectable parity,da B. Selectable baud rate (1200, 338.4k) C. "Packed on" date (uses scale D. "Sell by" date (must be set date. E. Weight/price/total F. Programmable header stores characters maximum) G. Bar Code Prefix 	ta bits, and stop bits) 2400, 4800, 9600, 19.2k, or e clock) aily) s 2 lines of name/address (32
MODEL	CAPACITY/GRADUATION	POWER
PC-10	6 x .002 lb	115VAC
PC-10KG	3 x .001 kg	115VAC
PC-20 PC-20KG	15 x .005 lb 6 x .002 kg	115VAC 115VAC
PC-30	30 x .01 lb	115VAC
PC-30KG	15 x .005 kg	115VAC
PC-31	30 x .01 lb	230VAC
PC-31KG	15 x .005 kg	230VAC

"KG" models are metric models

INSTALLATION

Unpack

Carefully unpack the scale and commodity tray. Remove the protective film from the front and rear displays. Make certain that no sign of damage to the instrument is visible. Should evidence of damage be found, the carrier should be contacted at once. Make certain to keep the carton and packing material should return shipment or storage of the instrument become necessary.

Shipping Screws

The load cell is protected from shipping damage by two (2) shipping screws through the top housing and one (1) shipping thumb screw located on the bottom of the scale (see figure). Remove the two (2) shipping screws, the thumb screw and the warning label before using the scale. Retain the two (2) shipping screws and the thumb screw to be re-installed before transporting or shipping the scale. *Note: Only hand tighten the thumb screw on the bottom of the scale and do not over-tighten the two (2) shipping screws through the top housing.*



CAUTION! Do not position the scale on its top (turn upside down) to remove the shipping thumb screw. Instead, position the scale on its back to remove the thumb screw.



Placement

Place the scale on a stable, vibration-free location away from direct sunlight and away from any rapid moving air source. Make certain the power cord is stored out of the way of normal traffic.



CAUTION! DO NOT place the scale on any unstable cart, stand or table. The scale may fall causing injury to the operator, and seriously damage the unit, or proper operation of the scale may be inhibited.

Level Scale

Before mounting the commodity tray onto the scale, level the scale if necessary by adjusting the four legs on scale bottom, up or down, until the bubble in the level gage located on the scale housing is centered as shown in the figure above. After level is achieved, lock legs in place by tightening lock nuts on legs against the scale bottom.

INSTALLATION, Cont.

Power Supply

- 1. Plug power supply into a wall receptacle that supplies 115 VAC power and into the connector on the underside of the chassis.
- On models requiring 230 VAC power, use the Cardinal/Detecto model 8529-B216-08, 230 VAC power supply. After installation of the proper connection, plug scale power supply into 230 VAC receptacle.



CAUTION!!! - To avoid electrical hazard and severe damage to the scale, use only the wall-plug-in power module provided with the scale.

3. START-UP - The scale is equipped with ON and OFF keys on the keypad. When the ON key is pushed, the scale will show zero weight, signalling that the scale is ready for use. If the deadload on the scale is not within ± 4% of the deadload used during calibration, the scale will display LoBd (LoAd) or unt oBd (UnLoAd), indicating that weight must be added or removed, respectively, from the platform. Once the deadload is within ± 4% of the deadload used during calibration, the scale during calibration, the scale during that weight must be added or removed, respectively, from the platform. Once the deadload is within ± 4% of the deadload used during calibration, the scale will zero and is ready for use.

KEY FUNCTIONS

This section describes the use of each of the keys on the Price Computing Scale.

WEIGHT	UNIT PRICE \$	TOTAL PRICE \$	
Image: Open state Image: Text state Image: Text state	8 9 250g 1/2 A E 5 6 100g 1/4 J K		R
			SPAC



The membrane keyboard is not to be operated with pointed objects (pencils, pens, fingernails, etc). Damage to keyboard resulting from this practice will *NOT* be covered under warranty.



Pressing this key when the scale is off will apply power to the instrument.



This key is used to remove power from the scale, turning it off. Press and hold the **OFF** key for one or two seconds to completely remove power from the scale.

KEY FUNCTIONS, Cont.



Pressing the **ZERO** key will rezero the weight display or when displaying the accumulator total, zero the accumulator.



Operator presses **TIME / DATE** key and is prompted for 5dBtE (sell by date). Date is displayed in total price window as it is keyed. **ENTER** key ends entry. NOTE! Sell By Date must be re-entered whenever power has been interrupted.

This key is also used to enter the system clock mode to program the time, date and year. Press the **Fn** key, then the **TIME / DATE** key to set or change the scale clock. The display will change to $fl_{10}c_{2}$, the prompt to enter the minutes.



Tare can be subtracted by placing a container on the scale and pressing **TARE** or by keying in a known tare (container) weight on the keypad and pressing **TARE** when the unloaded scale is at true zero.



Pressing the **PREPACK** key after unit price is entered retains the unit price for repetitive price-computing. Tare entries are retained in PREPACK mode.



This key is used to print labels when the scale is connected to a label printer. When in Prepack operation, it is used to print a label and add to the total price accumulator.

PLU Pri wi rev

Press the **PLU** key and the unit price display shows PP_{DOE} the request to enter a price lookup number. As the number is keyed, it is displayed in the total price window. After the PLU number has been entered, press the **ENTER** key. The recalled PLU description and unit price will display and operations will return to normal. Refer to the **PRICE LOOKUP (PLU) SETUP** section of this manual for programming price lookups.



The **0** through **9** numeric keys are used to enter numeric data during the setup and calibration as well as during normal operation of the scale. NOTE! The **0** and **1** keys have dual functions. They are used to enter numeric data during setup and calibration as well as during normal operations and are also used to select yes or no (1 = YES, 0 = NO) to various prompts.

Pressing the **ENTER/ACCUM** key when weight display is zero will cause the instrument to display the current contents of the accumulator (the number of pieces accumulated and total price since the last time the accumulator was zeroed). The maximum value of the accumulator is 9999.99.

The **CLEAR** key is used to clear an incorrect entry from the display without processing the data. Pressing the **CLEAR** key cancels a unit price entry, cancels the PREPACK mode or clears an incorrect or unacceptable known tare entry. If an incorrect entry is made, press the **CLEAR** key and re-enter the correct data. NOTE! The **CLEAR** key must be pressed before the **ENTER** key to ensure the data is not processed.

KEY FUNCTIONS, Cont.

NOTE! Pressing a fraction key, shown below, after a unit price has been entered computes price per fraction of a pound. After fraction key is pressed, unit price display will show price per pound (unit price multiplied by 2 or 4).



Pressing the **100g / 1/4** key computes price per 100g or 1/4lb depending on the scale mode.



Pressing the **250g / 1/2** key computes price per 250g or 1/2lb depending on the scale mode.



NOTE! With the scale mode set for kg operation (Lb = 0 or No) and the FRACTION keys disabled (F = BL = 0 or No) ONLY the 250g / 1/2 key will be disabled. The 100g / 1/4 key will remain enabled.



This key is used for several functions. During Price Look Up (PLU) Setup, this key is used to assign a PLU number to the second or alternate level of Quick-Keys.

In normal operation, pressing the **Fn** key before pressing a Quick-Key selects the second or alternate PLU assigned to that Quick-Key. This key is also used in conjunction with the **TIME / DATE** key to enter the system clock mode to program the time, date and year.

Alpha / PLU "Quick-Key" Keys



The alpha keys are used to enter alpha characters during setup and calibration as well as during Price Look Up (PLU) setup. The space is used to enter a blank space during alphanumeric data input for setup and calibration as well as during PLU setup.

During normal operations, the Alpha keys (including the Space) are the PLU Quick-Keys. Pressing the Quick-Key will output its assigned PLU. Pressing the **Fn** before pressing an Quick-Key will toggle the key to output its alternate assigned PLU.

For example, if PLU 23 is assigned to "A" and PLU 79 is assigned to alternate "A", pressing the **Fn** key then the **A** key causes PLU 79 to be recalled.

INDICATOR FUNCTIONS

The following describes the functions of each of the indicators contained on the face of the instrument display. Note that these indicators are contained within the display window.

РРК	Prepack mode
ZERO	True zero ± 1/4 division load indication
NET	Indicates that a tare weight is stored and weight display is net weight
P E lb R	The unit price is price per pound
P E 100g R	The unit price is price per 100 grams
P E 250g R	The unit price is price per 250 grams
P E kg R	The unit price is price per kilogram

OPERATION

Normal Unit Price

- 1. Place commodity on scale.
- 2. Key in unit price per pound or kilogram.
- 3. Read total weight and total price.
- 4. Remove commodity. Scale will return to zero, ready for next operation.

Unit Price Per 1/4 Ib or 1/2 Ib (so equipped)

- 1. Place commodity on scale.
- 2. Key in unit price per 1/4 lb or 1/2 lb.
- 3. Press corresponding fraction key. Note: Indicated price will change.
- 4. Read total weight and total price.
- 5. Unit price display will show price per pound.
- 6. Remove commodity. Scale will return to zero, ready for next operation.

Unit Price Per 100g or 250g (so equipped)

- 1. Place commodity on scale.
- 2. Key in unit price per 100g or 250g.
- 3. Press 100g or 250g key. 100g or 250g indicator will illuminate.
- 4. Read total weight and total price.
- 5. Unit price display will show price per 100g or 250g.
- 6. Remove commodity. Scale will return to zero, ready for next operation.

Normal Unit Price with Tare

- 1. Place container on scale and press **TARE** key.
- 2. Weight display goes to zero. Net weight indicator comes on.
- 3. Key in unit price and place commodity in container. Net weight of commodity will display.
- 4. Read net weight and total price.
- 5. If a label printer is connected to the scale, press **PRINT** key to print a label.
- 6. Remove container and commodity from scale. Scale will return to zero and clear tare and unit price information. Scale is ready for next operation. Note! Tare weight will only be cleared when scale returns to gross weight zero. If the tare does not clear when the Tare weight is removed, push the **CLEAR** key to return to gross weight zero.

Prepack (PPK) Operation

The Prepack (PPK) mode is for repetitive price-computing of commodities with the same unit price. Note that after the Prepack mode is entered, no change of unit price can be made until Prepack mode is cancelled.

- 1. Enter tare if so desired as outlined in Tare Operation. Tare entry will be retained in Prepack mode.
- 2. Enter unit price and press **PREPACK** key. Prepack mode indicator PPK will illuminate.
- 3. Place commodities on scale.
- 4. If a label printer is connected to the scale, press **PRINT** key to print a label.
- 5. When prepacking operation is ended, press the **CLEAR** key to clear unit price and turn off Prepack mode. Tare will then clear automatically.

NOTE! In Prepack mode, with a label printer connected to the scale, the Accumulator is automatically updated when the PRINT key is pressed to print a label.

OPERATION, Cont.

Tare Operation for Known Tare (container) Weight

Note: Known tare weights must be entered as numbers compatible with the particular scale division. Example: 30 lb x 0.01 = increments of 0.01 - 15 kg x 0.005 increments of 0.005. Any known tare entry not compatible with particular scale counting increments will be replaced and scale will display -102 -. Press the **CLEAR** key and re-enter correct compatible number.

Ib Models

- 1. Key in known tare weight, up to 4 digits (ignoring the decimal point), as a number appearing in the unit price display.
- 2. Press the **TARE** key. Entry will move to the weight display and be shown as negative (-) weight. Net indicator will illuminate.
- 3. Place container and commodity on scale. Net weight of commodity will be displayed. Enter unit price and proceed with price-computing operation.
- 4. After known tare operation is complete, tare weight will clear automatically after a positive weight is indicated, unit price has been entered and commodity is removed from scale.
- 5. When the weight is at c/z (center of zero), any tare can be cleared by pushing the **CLEAR** key. Note! Automatic tare clear is inoperable when scale is in the PREPACK mode.

kg Models

1. Key in known tare weight, up to 4 digits, as a number appearing in the unit price display (ignore decimal point). Example:

Key in 0.28 kg as 2-8-0	Key in 1.000 kg as 1-0-0-0
Key in 0.095 kg as 9-5	Key in 1.200 kg as 1-2-0-0

- 2. Press the **TARE** key. The acceptable tare entry will move to the weight display and be shown as negative(-) weight. Example: a tare entry of 1.50 kg should appear in the unit price display as 15.00. After the **TARE** key is pressed, the weight disply will show 1.500 and Net indicator will illuminate.
- 3. After known tare operation is complete, tare weight will automatically clear after a positive weight is indicated, unit price has been entered and commodity is removed from scale. Note! Automatic tare clear is inoperable when scale is in the PREPACK mode.

OPERATION, Cont.

PLU Operation Using Numeric Keypad

- 1. Press the PLU key. The Unit price display will show PPDDE .
- 2. Enter the PLU number (0 through 99) and press the **ENTER** key.
- 3. The recalled PLU description and unit price will display.
- 4. Place commodity on scale.
- 5. Read total weight and total price.
- 6. If a label printer is connected to the scale, press the **PRINT** key to print a label.
- 7. Remove commodity. Scale will return to zero, ready for next operation.

PLU Operation Using Quick-Keys (First Level)

- 1. Press the desired Quick-Key.
- 2. The recalled PLU description and unit price will display.
- 3. Place commodity on scale.
- 4. Read total weight and total price.
- 5. If a label printer is connected to the scale, press the **PRINT** key to print a label.
- 6. Remove commodity. Scale will return to zero, ready for next operation.

PLU Operation Using Quick-Keys (Alternate Level)

- 1. Press the **FN** key, then the desired Quick-Key.
- 2. The recalled PLU description and unit price will display.
- 3. Place commodity on scale.
- 4. Read total weight and total price.
- 5. If a label printer is connected to the scale, press the **PRINT** key to print a label.
- 6. Remove commodity. Scale will return to zero, ready for next operation.

Prepack (PPK) Operation with PLU

- 1. Enter PLU number or press the desired Quick-Key as described in the previous sections.
- 2. Press **PREPACK** key. Prepack mode indicator PPK will illuminate.
- 3. Place commoditie on scale.
- 4. If a label printer is connected to the scale, press **PRINT** key to print a label.
- 5. When prepacking operation is ended, press the **CLEAR** key to clear unit price and turn off Prepack mode. Tare will then clear automatically.

NOTE! In Prepack mode, with a label printer connected to the scale, the Accumulator is automatically updated when the PRINT key is pressed to print a label.

OPERATION, Cont.

Accumulator Feature

Adding to the Accumulator

When a stable total price is displaying, press the **ENTER/ACCUM** key. The total price will be added to the total price accumulator and the accumulator displayed in the total price window. The transaction counter will be increased by one and displayed in the unit price window. Any subsequent key press or motion on the scale will cause the totals display to disappear and the display to resume normal operation. **NOTE!** Another "Add" cannot be performed unless the weight is removed from the scale and another weight placed onto it.

Adding to the Accumulator With a Label Printer Connected

When a stable total price is displaying, press the **PRINT** key and then press the **ENTER/ACCUM** key. A label will print, the total price will be added to the total price accumulator and the accumulator displayed in the total price window. The transaction counter will be increased by one and displayed in the unit price window. Any subsequent key press or motion on the scale will cause the totals display to disappear and the display to resume normal operation. **NOTE!** Another "Add" cannot be performed unless the weight is removed from the scale and another weight placed onto it.

Prepack Operation, Adding to the Accumulator With a Label Printer Connected

Select the Prepack operation. When a stable total price is displaying, press the **PRINT** key. A label will print and the total price will *automatically* be added to the total price accumulator The accumulator will be displayed in the total price window and the transaction counter will be increased by one and displayed in the unit price window. **NOTE!** Another "Add" cannot be performed unless the weight is removed from the scale, another weight placed onto it and the **PRINT** key pressed again.

Reviewing the Accumulator

When the weight display is at zero, press the **ENTER/ACCUM** key. The contents of the total price accumulator and the transaction counter will display. To return to normal operation, press the **CLEAR** key. The accumulator contents are unchanged.

Printing the Accumulator

When the weight display is at zero, press the **ACCUM** key. The contents of the total price accumulator and the transaction counter will display. Press the **PRINT** key to print a Total label. To return to normal operation, press the **CLEAR** key. The accumulator contents are unchanged.

Clearing (zeroing) the Accumulator

Whenever the Total display is present, press the **ZERO** key. The total price accumulator in the total price window and the transaction counter in the unit price window will clear (become zero). Press the **CLEAR** key to return to normal operation.



NOTE! Accumulator contents are lost if power is interrupted.

PRICE LOOK UP (PLU) SETUP

Add or Edit PLU

- 1. With the scale in the Weight mode (0.00 will be displayed on the weight display), press the **PLU** key. The unit price display will change to PPoor (PLU Number).
- 2. Press the ENTER key. The unit price display will change to PP____.
- 3. Using the numeric keys, enter the PLU number and then press the **ENTER** key. **NOTE!** PLU numbers can be 0 through 99.
- 4. The unit weight display will change to <u>PPope</u>, where <u>op</u> is the PLU number you entered and the unit price display will change to <u>0.00</u> (or show the current price).
- 5. Using the numeric keys, enter the PLU unit price and then press the **ENTER** key. **NOTE!** Unit price can be 0.01 through 999.99.
- 6. The unit price display will change to dE5cz (PLU Description) and the total price display will change to a blinking segment (or show the current description).
- 7. Using the alpha-numeric keypads, enter up to 32 characters for the PLU description. Characters are entered using the alpha-numeric keypad. Each character entered will appear in the total price window as it is keyed. Refer to the table below to verify the character displayed versus the key pressed. Press the ENTER key to end character entry and save it. NOTE! When entering the PLU description, pressing the CLEAR key will act as a "backspace" key (it will back up one space and delete the character in that space).

Character	Display	Character	<u>Display</u>	Character	Display	Character	Display
А	8	K	ŀ	U	U	0	0
В	Ь	L	L	V	U	1	1
С	E	М	Π	W	Ξ	2	2
D	d	N	n	Х	H	3	3
E	ε	0	ο	Y	У	4	Ч
F	F	Р	ρ	Z	2	5	S
G	9	Q	9			6	8
Н	Н	R	r	SPACE	blank	7	٦
I	ı	S	S			8	8
J	J	Т	Ł			9	9

PLU CHARACTER DISPLAY TRANSLATION TABLE

- 8. The weight display will change to $L \rightarrow E =$ (Shelf Life) and the unit price display will change to B (or show the current setting).
- 9. Using the numeric keys, enter the shelf life of the item and then press the **ENTER** key. **NOTE!** Shelf life can be 1 through 255 days.
- 10. The weight display will change to $\mathcal{EREH}_{\mathcal{E}}$ (Unit of Measure, Each or per Pound) and the unit price display will change to $\mathcal{AP}_{\mathcal{E}}$ (or show the current setting).
- 11. Using the **0/NO** or **1/YES** keys, enter the setting and then press the **ENTER** key.

0 = NO, Price per lb (no θ will be displayed in unit price display)

- 1 = YES, Price is for Each item ($\Im \mathcal{E} S = I$ will be displayed in unit price display)
- 12. The unit price display will change to $\xi R_{r} \xi z$ (Tare Weight) and the total price display will change to $\xi n \xi \xi r$ (Press ENTER to Set Tare Weight).

To set the tare, place the empty container on the scale platform and then press the **ENTER** key.

To bypass setting the tare and/or keep the current tare, press the **CLEAR** key.

PRICE LOOK UP (PLU)SETUP, Cont.

Add or Edit PLU, Cont.

13. The unit price display will change to PLU = (Assign Quick-Key).

To assign the PLU to the first level of Quick-Keys:

- A. Press the desired Quick-Key. (*PLU*: will be displayed in unit price display). The total price display will display the Quick-Key pressed.
- B. Press the ENTER key to save the setting.
- C. The total price display will change to show the PLU unit price to verify the setting was saved.

To assign the tare PLU to the second or alternate level of Quick-Keys:

- A. Press the **FN** key, then the desired Quick-Key. (*RPLU* = will be displayed on unit price display). The total price display will display the Quick-Key pressed.
- B. Press the **ENTER** key to save the setting.
- C. The total price display will change to show the PLU unit price to verify the setting was saved.
- 14. Repeat steps 1 through 13 for each PLU required. When all PLU's have been entered (or edited), press the **CLEAR** key to complete the PLU setup.

SETTING THE TIME AND DATE

- 1. With the scale in the Weight mode (0.00 will be displayed on the weight display), press the **Fn** key, then the **TIME/DATE** key.
- 2. The display will change to n_{inc} (MINUTES). Observe the current setting. If the value displayed is acceptable, press the **ENTER** key to save it. Otherwise, use the numeric keys to enter a new value, then press the **ENTER** key to save it. Allowable values are: 0 through 59.
- 3. The display will change to Holle = (HOURS). Observe the current setting. If the value displayed is acceptable, press the **ENTER** key to save it. Otherwise, use the numeric keys to enter a new value, then press the **ENTER** key to save it. Allowable values are: 0 through 23. Note that the time is entered in a 24-hour format. When entering times after noon (12:00 PM), you must add 12 to the time. For example, 3:00 PM would be entered as 15.
- 4. The display will change to dRy: (DAY). Observe the current setting. If the value displayed is acceptable, press the **ENTER** key to save it. Otherwise, use the numeric keys to enter a new value, then press the **ENTER** key to save it. Allowable values are: 1 through 31.
- 5. The display will change to *Dop* = (MONTH). Observe the current setting. If the value displayed is acceptable, press the **ENTER** key to save it. Otherwise, use the numeric keys to enter a new value, then press the **ENTER** key to save it. Allowable values are: 1 through 12.
- 6. The display will change to $\Im \mathcal{EB}_{\mathcal{F}}$: (YEAR). Observe the current setting. If the value displayed is acceptable, press the **ENTER** key to save it. Otherwise, use the numeric keys to enter a new value, then press the **ENTER** key to save it. Allowable values are: 00 through 99.

MANUALLY SETTING THE SELL BY DATE

- 1. With the scale in the Weight mode (0.00 will be displayed on the weight display), press the **TIME/DATE** key.
- 2. The unit price display will change to $5dR \xi E$ and the total price display will change to B (or show the current setting).
- 3. Using the numeric keys, enter the sell by date in the MMDDYY format, (e.g. 010105 for January 01, 2005) The date will appear in the total price window as it is keyed. Press the **ENTER** key to save the date setting.

SETUP AND CALIBRATION PROCEDURE

This scale was calibrated at the factory and should not require adjustment. In the event that the scale should need calibration, the following describes the Calibration of the Price Computing Scale. A qualified technician should perform this function to maintain the instrument's high degree of accuracy.

Before beginning calibration, the following equipment is required:

Calibrated test weights (6 lb for PC-10, 15 lb for PC-20, or 30 lb for PC-30) (3 kg for PC-10KG, 6 kg for PC-20KG, or 15 kg for PC-30KG)

No. 1 Phillips screwdriver to remove side cover



With the scale power off, remove the four (4) screws and two (2) calibration sealing tabs securing the right side cover (as viewed from the scale front) and remove the cover. Referring to the illustration, locate the calibration switch S1. Push and hold calibration switch S1. Press the **ON** key to turn power on. The weight display window will show $\mathcal{LBP}_{=}$.



If sealing wires require breaking for purposes of calibration, proper procedures covered under the National Institute of Standards and Technology Handbook 44 must be adhered to.

Note: The unit price window will usually contain the current value for the label in the capacity window if setup has been previously performed. Subsequent keystrokes will replace the current value.



CAUTION!! If power is interrupted during setup and calibration, new values entered are lost. However, all previously entered data will be retained. Note that new data entered is stored when the "dootE" messge is displayed at the end of setup and calibration.

ERP: (SCALE CAPACITY)

With the display showing ERP_z , observe the current setting. If the value displayed is acceptable, press the **ENTER** key to save it. Otherwise, use the numeric keys to enter a new value, then press the **ENTER** key to save it. Allowable values are: 3, 6, 15, or 30.

Lb: (WEIGHING UNIT)

With the display showing Lbz, observe the current setting. If the setting displayed is acceptable, press the **ENTER** key to save it. Otherwise, using the numeric keys, **0/NO** or **1/YES**, enter the new setting, then press the **ENTER** key to save it. Allowable values are:

0 = NO (Kilograms) 1 = YES (Pounds)

LORd: (LOAD CALIBRATION WEIGHT)

The display will change to $L \square R d =$ which is a prompt for the entry of the calibration weight value and placement of the test weights on the scale platform.

NOTE! If recalibration is not desired, press the 0 (zero) key on the numeric keypad, then press the **ENTER** key and proceed to UPdPz.

- 1. If recalibration is desired, make certain the scale platform is empty and free of debris, then apply a weight equal to 70% to 100% of the scale capacity to the scale (do not use fractional lb or kg weights).
- 2. Using the numeric keypad, input the value of the test weight and press the **ENTER** key.
- 3. Press the ENTER key.

UntOd: (UNLOAD CALIBRATION WEIGHT)

After a moment the display will change to Unit de PrESS EntEr which is a request that the test weights be removed from the scale platform. Remove the weights then press the **ENTER** key. The calculated calibration factor is now stored in the indicator's nonvolatile memory.

UPdP: (UNIT PRICE DECIMAL PLACES)

With the display showing UPdPz, observe the current setting. If the value displayed is acceptable, press the **ENTER** key to save it. Otherwise, use the numeric keys to enter a new value, then press the **ENTER** key to save it. Allowable values are:

0 = XXXXXX 1= XXXXXX 2 = XXXXXX 3 = XXXXXX

NOTE! The number of decimal places in the unit price does not affect the preset prices.

EPdP: (TOTAL PRICE DECIMAL PLACES)

With the display showing $E^{P}dPz$, observe the current setting. If the value displayed is acceptable, press the **ENTER** key to save it. Otherwise, use the numeric keys to enter a new value, then press the **ENTER** key to save it. Allowable values are:

0 = XXXXXX 1= XXXXXX 2 = XXXXXX 3 = XXXXXX

rod5: (ROUND TOTAL PRICE)

With the display showing rod5z, observe the current setting. If the setting displayed is acceptable, press the **ENTER** key to save it. Otherwise, using the numeric keys, **0/NO** or **1/YES**, enter the new setting, then press the **ENTER** key to save it. Allowable values are:

0 = NO (Normal Operation) 1 = YES (Round to nearest 5)

とPbL = (TOTAL PRICE BLANKING)

With the display showing $LP_{bL=}$, observe the current setting. If the setting displayed is acceptable, press the **ENTER** key to save it. Otherwise, using the numeric keys, **0/NO** or **1/YES**, enter the new setting, then press the **ENTER** key to save it. Allowable values are:

0 = NO (Disable) Total price is shown when scale motion is present.

1 = YES (Enable) Total price is blanked out when scale motion is present

FrBC: (FRACTION KEYS)

With the display showing $F_{CB}C_{z}$, observe the current setting. If the value displayed is acceptable, press the **ENTER** key to save it. Otherwise, use the numeric keys to enter a new value, then press the **ENTER** key to save it. Allowable values are:

0 = Fraction keys are disabled in lb mode or only 100g in kg mode

1 = Enables both fraction keys (lb or kg mode)

2 = Disables both fraction keys (lb or kg mode)

EBrE: (TARE FUNCTIONS)

With the display showing $EB_{C}E_{z}$, observe the current setting. If the value displayed is acceptable, press the **ENTER** key to save it. Otherwise, use the numeric keys to enter a new value, then press the **ENTER** key to save it. Allowable values are:

0 = Disables keypad tare and enables push button tare

1 = Enables both keypad and push button tare

2 = Disables both keypad and push button tare

Ober B: (AUTOMATIC ZERO TRACKING)

With the display showing o t c B z, observe the current setting. If the setting displayed is acceptable, press the **ENTER** key to save it. Otherwise, using the numeric keys, **0/NO** or **1/YES**, enter the new setting, then press the **ENTER** key to save it. Allowable values are:

0 = NO (Disable Automatic Zero Tracking)

1 = YES (Enable Automatic Zero Tracking, 1 Division)

F + L E = (FILTER LEVEL SELECTION)

The display will change to show F = L E = which is the prompt for the selection of the digital filtering level. Please check with your scale service technician should you wish to change the filter level, break range and sample rate.

Observe the current setting. If the value displayed is acceptable, press the **ENTER** key to save it. Otherwise, use the numeric keys to enter a new value, then press the **ENTER** key to save it. Allowable values are: 0, 1, 2 or 3. Note, that if you select 3 (Custom Filtering) three additional prompts will be displayed.

0 = NO Filtering and a sample rate of 3 samples per second

- 1 = Changes the sample rate to 4 samples per second (*factory setting*)
- 2 = Changes the sample rate to 4 samples per second
- 3 = Allows customizing the filter for special needs

NOTE! The prompts, F = (Filter Level), b = c (Break Range) and 5 = c (Sample Rate) will <u>only</u> be displayed if you select 3 (Custom Filtering) for the F = LE = Filter Level.

F : (FILTER LEVEL)

If you select Custom Filtering, the display will change to show \mathcal{F}_{z} , the Filter Level. The filter level is a number from 1 to 16 that corresponds to the level of filtering with 16 being the greatest filtering and 1 the least.

Observe the current setting. If the value displayed is acceptable, press the **ENTER** key to save it. Otherwise, use the numeric keys to enter a new value, then press the **ENTER** key to save it. Allowable values are: 1 through 16.

br = (BREAK RANGE)

The break range is a number from 0 to 64 that corresponds to the number of graduations of weight change to break out of filtering. Note that the higher the number, the greater the filtering.

Observe the current setting. If the value displayed is acceptable, press the **ENTER** key to save it. Otherwise, use the numeric keys to enter a new value, then press the **ENTER** key to save it. Allowable values are: 0 through 64.

Se : (SAMPLE RATE)

The Sample rate value for filter number 3 is a value which represents the rate at which the displayed weight is refreshed. Note, that the lower the number, the slower the refresh and the more resistant the weight will be to vibration or other causes of weight deviation.

Observe the current setting. If the value displayed is acceptable, press the **ENTER** key to save it. Otherwise, use the numeric keys to enter a new value, then press the **ENTER** key to save it. Allowable values are 1 to 8 samples per second.

The following prompts are for printer output only!

SRUde (SERIAL OUTPUT BAUD RATE)

With the display showing bBUdz, observe the current setting. If the value displayed is acceptable, press the **ENTER** key to save it. Otherwise, use the numeric keys to enter a new value, then press the **ENTER** key to save it. Allowable values are: 12, 24, 48, 96, 19, 38.

12 = 1200 Baud	24 = 2400 Baud	48 = 4800 Baud
96 = 9600 Baud	19 = 19.2k Baud	38 = 38.4k Baud

PRr = (PARITY SETTING)

With the display showing $PB_{C,2}$, observe the current setting. If the value displayed is acceptable, press the **ENTER** key to save it. Otherwise, use the numeric keys to enter a new value, then press the **ENTER** key to save it. Allowable values are: 0, 1 or 2.

0 = No parity (8-N-1) 1 = Even parity (7-E-1) 2 = Odd parity (7-O-1)

Prb: (LABEL PRINTER SELECTION)

With the display showing $P_{r,k,z}$, observe the current setting. If the value displayed is acceptable, press the **ENTER** key to save it. Otherwise, use the numeric keys to enter a new value, then press the **ENTER** key to save it. Allowable values are: 0, 1, 2, 3 or 4.

- 0 = P200 (Eltron Companion Plus)
 - P220 / P240 (Eltron 2722 / 2742)
- 1 = user defined (via "n-Control")
- 2 = P200, P205, or P220 / P240 with DSR handshake check
- 3 = user defined (via "n-Control") with DSR handshake check
- 4 = P205 (Cognitive Del-Sol)

Sala: (SELECT DELAY)

The select delay value is the delay before responding to a "W" received on the serial port. The actual delay time (in second) is the 5dLBz value entered multiplied by 0.2.

For example:

If a 1 second delay is desired, then 5dLB = 5 (5 x 0.2 = 1)

If a 2 second delay is desired, then 5dLS=10 (10 x 0.2 = 2)

With the display showing 5dLBz, observe the current setting. If the value displayed is acceptable, press the **ENTER** key to save it. Otherwise, use the numeric keys to enter a new value, then press the **ENTER** key to save it. Allowable values are 0 (no delay) to 255.

d = (STORE NAME / ID)

The display will change to show *id z* which is the prompt to enter up to 32 characters of the store name/ID. Characters are entered using the alpha-numeric keypad. Each character entered will appear in the total price window as it is keyed. Refer to the table below to verify the character displayed versus the key pressed. Press the **ENTER** key to end character entry and save it.

Character	Display	Character	Display	Character	Display	Character	Display
А	Я	K	ŀ	U	U	0	0
В	Ь	L	L	V	U	1	1
С	E	М	П	W	Ξ	2	2
D	d	N	n	Х	11	3	3
E	ε	0	0	Y	Ч	4	Ч
F	F	Р	ρ	Z	2	5	S
G	9	Q	9			6	8
Н	Н	R	r	SPACE	blank	7	7
I	ı	S	S			8	8
J	J	Т	F			9	9

STORE NAME/ID CHARACTER DISPLAY TRANSLATION TABLE



NOTE! If $P_{CE} = 1$ or 2, setup will bypass the steps $bB_{CE} = , bEE_{CE}$ and $bB_{CP} = and$ the display will advance to the $B_{CP} = (MINUTES)$ prompt.

BARCODE PRINTING)

With the display showing bBrEz, observe the current setting. If the setting displayed is acceptable, press the **ENTER** key to save it. Otherwise, using the numeric keys, **0/NO** or **1/YES**, enter the new setting, then press the **ENTER** key to save it. Allowable values are:

0 = NO (Disable Bar Code Printing)

1 = YES (Enable Bar Code Printing)



blenz (BAR CODE PREFIX LIMIT)

If the bar code printing prompt ($bB_{C} E_{z}$) was answered Yes, this prompts the operator to set a limit for the bar code prefix. Allowable values are 4 or 5.

Entering a 4, will allow a total price of 6 digits and limit the bar code prefix to 4 digits.

Entering a 5, will allow a total price of 5 digits and allow a bar code prefix of 5 digits.

With the display showing bLEnz, observe the current setting. If the setting displayed is acceptable, press the **ENTER** key to save it. Otherwise, use the numeric keys to enter a new value, then press the **ENTER** key to save it.

bBrPz (BAR CODE PREFIX)

With the display showing $bR_{r}P_{z}$, observe the current setting. If the setting displayed is acceptable, press the **ENTER** key to save it. Otherwise, use the numeric keys to enter a new value, then press the **ENTER** key to save it. Enter 4 or 5-digits (depending on what was selected for the previous bar code prefix limit prompt (bLEnz).

(MINUTES)

With the display showing $\beta_{10,2}$, observe the current setting. If the value displayed is acceptable, press the **ENTER** key to save it. Otherwise, use the numeric keys to enter a new value, then press the **ENTER** key to save it. Allowable values are: 0 through 59.

Hours (HOURS)

With the display showing $H_0U_{r,z}$, observe the current setting. If the value displayed is acceptable, press the **ENTER** key to save it. Otherwise, use the numeric keys to enter a new value, then press the **ENTER** key to save it. Allowable values are: 0 through 23.

NOTE! The time is entered in a 24-hour format. When entering times after noon (12:00 PM), you must add 12 to the time. For example, 3:00 PM would be entered as 15.

889: (DAY)

With the display showing dRG_2 , observe the current setting. If the value displayed is acceptable, press the **ENTER** key to save it. Otherwise, use the numeric keys to enter a new value, then press the **ENTER** key to save it. Allowable values are: 1 through 31.

Non: (MONTH)

With the display showing Π_{DDDE} , observe the current setting. If the value displayed is acceptable, press the **ENTER** key to save it. Otherwise, use the numeric keys to enter a new value, then press the **ENTER** key to save it. Allowable values are: 1 through 12.

SERr: (YEAR)

With the display showing $\Im \mathcal{E}\mathcal{B}_{\mathcal{F}}z$, observe the current setting. If the value displayed is acceptable, press the **ENTER** key to save it. Otherwise, use the numeric keys to enter a new value, then press the **ENTER** key to save it. Allowable values are: 00 through 99.

dont (DONE)

This message will be displayed briefly, indicating that calibration/setup is complete and calibration data will be stored at this time. The scale will reset, display the model number and software revision momentarily and then display weight. Replace the right side cover and secure using the four (4) screws and two (2) calibration sealing tabs removed earlier. Check for proper weighing. The scale is ready to use.

SETUP REVIEW MODE

The SETUP REVIEW MODE allows several operational parameters to be reviewed and changed as necessary without having to enter the setup and calibration mode. The parameters in the setup review will be processed in the following sequence:

- 6888 Select baud rate for serial output.
- PBr = Parity setting
- Prt = Label printer selection
- Salar Select delay
- d = Store Name/ID
- bBrcc Enable or Disable bar code printing
- bl En = Select bar code prefix limit
- bBrPz Enter bar code prefix
- Direct Set the minutes portion of the time
- Holle : Set the hours portion of the time
- d89: Set the day of the month
- *Boos* Set the month of the year
- BERr = Set the year

To enter the setup review mode:

- 1. Turn the scale off.
- 2. Press and hold the ENTER key, then press the ON key.
- 3. The display will show 5EEUP the model number and software revision momentarily, then change to the bBudz, the selection to set the baud rate for the serial output.
- 4. Refer to the instructions listed in the Setup and Calibration section of this manual for information on how to change these parameters.

RECOMMENDED SEALING

To prevent access to interior components, seal the indicator as follows:

- 1. Bend tab over end cap retaining screw as shown. Press the tab down against the screw head. Make certain both screws are tightened securely before proceeding.
- 2. Thread the sealing wire through the hole in the tabs as shown. Pull the wire tight and install the lead seal. Neither screw can be removed without damaging the seal.



ERROR MESSAGES

СЯЦ 15	Indicates that the scale has never been setup and calibrated or has been interrupted during the setup and calibration sequence.
ErrAL	Indicates a faulty component or broken wire in the analog circuitry of the instrument.
F8 .L2	Will appear whenever the program cannot write data into the system memory (setup and calibration is in progress).
- ouf -	Will appear in the weight display whenever a net weight exceeds -9999 (4 digits negative).
OCRP	Indicates the scale weight capacity has been exceeded.
ՍոՏեե	 Indicates motion on the commodity tray during sampling. This message may occur when: 1. The PRINT key is pressed. 2. The ZERO key is pressed. 3. The TARE key is pressed (to enter current weight as push button tare).
Error	Indicates an incorrect key depression. It is accompanied by a long tone (beep).
LoRd	Indicates there is insufficient deadload for the scale to zero.
Unlod	Indicates there is too much deadload for the scale to zero.
-ouF-	The error message $- \rho \omega F$ - (overflow) will appear in either the unit price or total price displays whenever the amount to display exceeds 99999 for unit price or 999999 for total price. $-\rho \omega F$ - will also appear in the weight window when an attempt is made to tare a weight greater than 9999.
- int-	The error message $-\frac{1}{10}k^2$ (interval) will appear in the unit price display whenever the keyboard tare weight division value isn't the same as the scale division value. For example, a PC-20 (15 lb x .005 lb) will display $-\frac{10}{10}k^2$ if you attempt to enter 1.003 for the tare weight.
-trl	The error message - ErL - (zero tracking limit) will appear in the unit display whenever the ZERO key is pressed with the weight outside the scale zero weight range. NOTE! Only 4% of scale capacity can be zeroed.
SErouf	The error message $5E coF$ (serial overflow) will appear in the total price display whenever the scale's serial buffer is overrun during communication.
noPrt	The error message $\sigma e^{\rho} c t$ (no printer) will appear when attempting to print without a "handshake cable" if the value for Prt= is a 2 or 3.
5809	The message 580, of graving) is displayed while downloading a nControl ticket.

BEFORE YOU CALL FOR SERVICE...

Customer satisfaction is of utmost importance. Should you experience difficulty with the operation of this instrument, please check the following items before requesting service:

- 1. Is the power supply fully inserted into the wall receptacle?
- 2. Is the power supply connector fully inserted into the scale power supply receptacle?
- 3. Is the wall receptacle receiving power? Does another piece of equipment work when
- plugged into this receptacle? Has the circuit breaker been checked?
- 4. Has proper operation procedure been followed?
- 5. Have the shipping screws been removed?

If you have any problems, DO NOT TRY TO REPAIR THIS UNIT YOURSELF! Unplug the power cord and contact your dealer.

THERMAL PRINTER TROUBLE SHOOTING GUIDE

Symptom	Solution or Reason
READY indicator does not light GREEN.	Check the power connections, both at the rear of the printer and at the wall outlet.
READY indicator lights GREEN, but printer will not print.	Check the interface cable connections from the scale to the printer.
Printer appears to be working, but	1. Verify labels are the correct type (direct thermal).
nothing is printed.	 Check that roll is properly loaded (see printer manual).
Printing is faded or poor quality	Ensure front door (cover) is fully closed.
Prints only partial label.	 Label caught on printhead. Clean print head. Use ONLY soft plastic to scrape the label from the printhead. DO NOT USE METAL OBJECTS; printhead may be permanently damaged.
	2. When loading the first (initial) roll of labels, OR when loading a different size label, approximately one to three labels will be used to establish the TOF (top of form) setting. NOTE! The TOF is determined by the gap between the labels. To check the TOF setting, press FEED. Only one label should advance.
Printer skips labels.	The Label Sensor is missing the gap between the labels due to one of the following reasons:
	A. Operator is holding label backing in an upwards direction as it exits the printer.
	B. The labels are exiting close to an obstruction, forcing the labels to exit in an upwards direction.
	C. The backing is allowed to pile up in front of the printer, forcing the labels to exit in an upwards direction.
Printing stops, READY indicator flashes.	Printer is out of labels.
Printing stops, READY indicator	1. Possible label jam.
flashes for 3 seconds then returns to GREEN.	2. Communication error. Check interface cable and $P = k =$ settting in Setup and Calibration.

SERIAL DATA OUT AND WEIGH ON DEMAND FUNCTION

The PC series scale will transmit SMA Level 1 compliant serial weight data when the PRINT key is depressed or when connected to a host (Weight On Demand). When connected to a host, serial weight data will be transmitted to the host in a SMA Level compliant format when the host sends the scale a <If> W <cr> (linefeed, capital W, and a carriage return) or in an alternate format when the host sends the scale a W (capital W only).



The Weight On Demand feature equires a special serial cable (Cardinal P/N 8529-B305-0A) connected between the scale and host.

SMA Level 1 Compliant Format

When the PRINT key is depressed or the Weight On Demand command (<If> W <cr>) is sent by the host, the weight data will be transmitted in the following format:

<lf>srnmfxxxxxx.xxxuuu<cr>

where:	< f>	-	line feed (oA hex)	
	S	-	Status 'Z' = Center of Zero	
			'O' = Zero	Error
			'' = space	(none of the above)
	r	-	Range '1'	
	n	-	Gross/Net status	
	m	-	Motion Status	'm' = scale in motion
				' ' = scale not in motion
	f	-	Reserved for future use	
	XXXXXX.XXX	-	Weight (fixed at 10 characters)	
	uuu	-	Unit of measure	
	<cr></cr>	-	Carriage return (0	D hex)

Alternate Weight On Demand Format

When the alternate Weight On Demand command "W" (57H) is sent, the weight data will be transmitted in the following format:

Response: Weight

1 byte	STX	02H
5 byte	WEIGHT	Kg = XX.XXX
1 byte	CR	0DH

Response: ERROR

1 byte	STX	02H
1 byte	?	3FH
1 byte	STATUS	
1 byte	CR	0DH

STATUS:

- Bit 2 = 1 under zero
- Bit 1 = 1 out of range
- Bit 0 = 1 motion

PC SERIES INTERFACE CABLES

The PC series scale can be interfaced to different Detecto printers as well as to a host computer. The following table lists the model numbers of the printers supported and the cable required to connect to them or to a host computer.

PC Series Interface Cables		
Printer Model Number	Cardinal P/N	
P200	6980-1047	
P220/P240	8529-B304-0A	
HOST (computer 9-pin)	8529-B305-0A	

NOTE! Using nControl, serial printers from other manufacturers may be used with the PC series scale. Some printers may work using one of the above listed standard cables, others may require a custom built cable. It is the responsibility of the purchaser to insure that the custom built cable is correctly wired. Refer to the printer manufacturer's owner's manual and the following illustration to determine the correct cable configuration.

Serial Data Output Connector

Pin 1	N.C. (no connection)
Pin 2	GROUND
Pin 3	TXD (transmit)
Pin 4	RXD (receive)
Pin 5	DSR(data set ready)
Pin 6	N.C. (no connection)



CARE AND MAINTENANCE

- 1. DO NOT subject the commodity tray to sudden shocks.
- 2. DO NOT submerge the scale in water or spray water directly on the scale. The scale may be cleaned using a damp soft cloth and mild detergent.
- 3. DO NOT use an abrasive cleaner on this instrument.
- 4. DO NOT use acetone or other volatile solvents for cleaning.
- 5. DO NOT use any sharp or pointed instrument to depress keys.

NOTES

