

PRICE COMPUTING SCALE user manual

Model: CPT20



Please read this manual carefully before operation

---General Precautions

---Operating condition and other attentions

---Warranty

GRAVITY MEASUREMENT, INC.

Important Safety Information

READ ALL INSTRUCTIONS BEFORE USING SCALES TO ENSURE MAXIMUM SAFETY, BEST PERFORMANCE, AND TO GAIN KNOWLEDGE OF OUR SCALE, IT IS ESSENTIAL THAT YOU OR ANY OTHER OPERATOR OF THE SCALE READ AND UNDERSTAND THE CONTENTS OF THIS MANUAL BEFORE OPERATING THE DEVICE.

When using an electrical device, basic precautions should always be followed, including the following:

1. Please use only the original power cord or DC adapter supplied with the scale. Other cords or adapters may damage the scale.
2. DC adaptor is used to charge the battery, and scale can operate without DC adaptor.
3. Avoid using long power extension cords – this may cause interference
4. Do not use on surfaces or in areas where vibration, air movement or temperature change. Do not place in direct sunlight or near air conditioning vents.
5. Avoid high humidity (greater than 80%) that might cause condensation, and keep away from direct contact with water and other corrosive chemicals.
6. Static may influence the weighing result. To reduce the static, wipe the pan and scale with anti-static wipes.
7. Don't impact or drop heavy objects on the scale – this may affect accuracy, or cause damage. Do not stack material on the scale when it is not in use.
8. Battery should be removed if the scale is not used for a long period of time. Battery should be recharged every 3 months.
9. Place items to be weighed as close to center of the pan as possible
10. Only use fingers to operate the keypad. Do not press with hard or sharp objects.

Warranty

Gravity Measurement, Inc. (Schenectady, New York) offers one-year limited warranty (parts and labor) for the components failed due to defects in materials or workmanship. Warranty starts from the date of delivery.

During the warranty period, should any repairs be necessary, the purchaser must inform its supplier or Gravity Measurement. The company or its authorized technician reserves the right to repair or replace the components at any of its workshops depending on the severity of the problems. However, any freight involved in sending the faulty units or parts to the service center should be borne by the purchaser.

The warranty will cease to operate if the equipment is not returned in the original packaging and with correct documentation for a claim to be processed. All claims are at the sole discretion of Gravity Measurement.

This warranty does not cover equipment where defects or poor performance is due to misuse, accidental damage, exposure to radioactive or corrosive materials, negligence, faulty installation, unauthorized modifications or attempted repair or failure to observe the requirements and recommendations as given in this User Manual. Additionally, rechargeable batteries (where supplied) are not covered under warranty.

Repairs carried out under the warranty does not extend the warranty period. Components removed during the warranty repairs become the company property.

What is inside Box

AC/DC adaptor (110V)

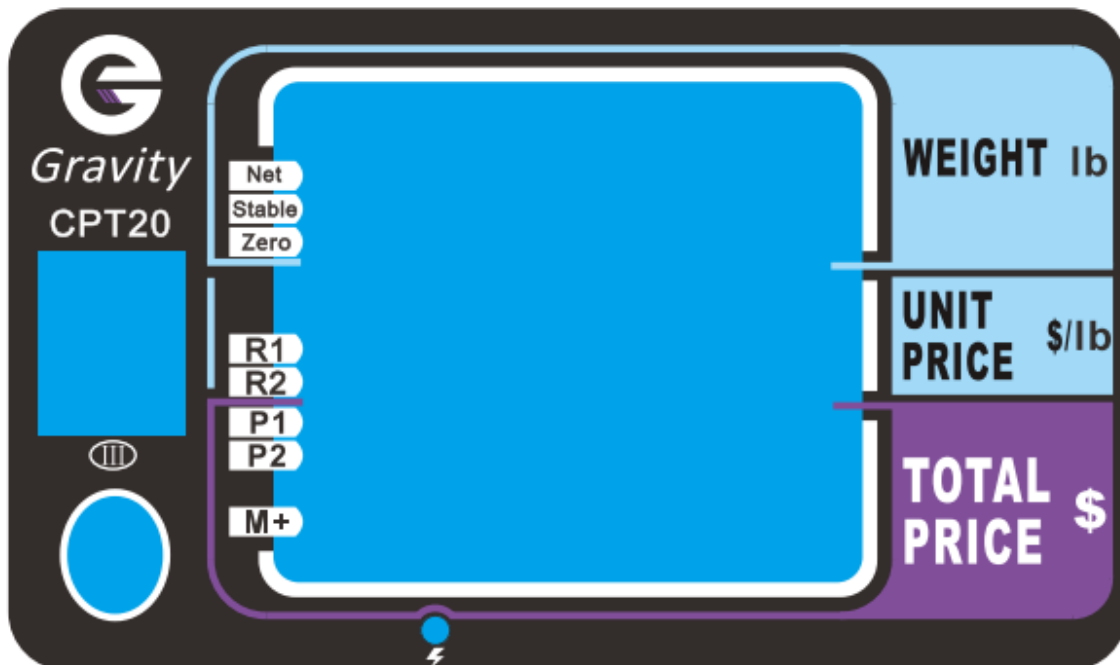
CPT20 Scale, with adhesive film covered platter. Two parts are separated to protect the load cell during transportation.

Two wire seals. The wire seal is used usually by the inspector of Department of Weight and Measure or authorized dealer. The wire seal is threaded through a metal rode that protrudes through the bottom of the device and also through a hole in the scale base adjacent to the metal rode.

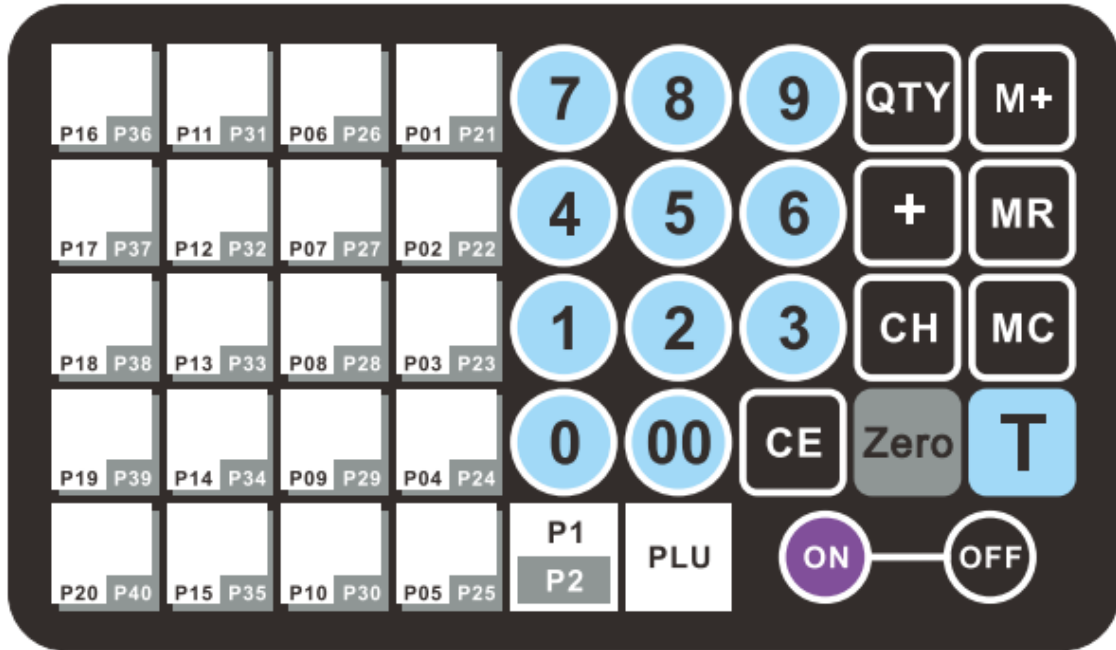
Set up the Scale

Place the scale on a stable, level surface out of the way of air currents. The scale must be level during use. Adjust the feet and use the integrated bubble at the front of the scale to achieve level. Be sure that scale does not rock back and forth. Ensure no weight is on the pan when turning on the scale. Scale is operated using the rechargeable battery. AC adaptor is used to charge the battery, and scale can operate without DC adaptor.

DISPLAYS DESCRIPTION



KEYBOARD DESCRIPTION



Press and hold this key for 2 seconds to turn off the scale.



Press this key briefly to turn on the scale. A self-test will run on the display and then stabilize showing zero



Quantity key, after a unit price has been entered, press this key then enter how many pieces and the total price will be calculated (up to 99 pieces).



Accumulate key, after putting a weight onto the scale, the key can be used to accumulate weight, unit price and total price (up to 20 records)



Add key, Amount accumulation for counting methods, used to match with the QTY key.



Display total accumulated count, total accumulated weight, and total count. Clear accumulation: press and hold the **【MR】** key until buzzer beeps twice, then clear accumulation



Charge key, to calculate the charge for customer.



Memory clear key, press it at accumulation recall mode to clear single accumulated data. At weighing mode will clear all accumulated data at once



Zero key, to reset the residual weight back to zero (only when the display weight is less than +/- 2% of the max. capacity). In the setup mode, it means moving up.



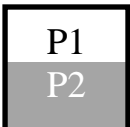
Tare key, to subtract the weight of a container (tare range: full capacity).



Clear the piece weight window. When there is accumulated value and no unit price, press this key to display total accumulated counts and total accumulated price.

PLU


Price look up key, to save unit price (for detail refer to “save the price look up”).



Group key: to switch between P01-P20 and P21-P40

BASIC FUNCTIONS AND OPERATION

Tare function

Place a container on the platter and press the  key, the weight of container will be deducted. After a tare you will be able to weigh any object as its net weight.

Accumulation

Press the **M+** key to accumulate up to 20 data of weight and unit price. Must have object to be weighed and unit price entered to be able to accumulate.

Recall accumulated data

Press the **MR** key to recall and view data of accumulated weight, unit price and total price.

For example: If have accumulated three data, press the **MR** key to view the first saved data. Press the **MR** key again to view the second saved data and third time to see the third data, finally, press the **MR** key to view the total accumulated value of all three data.

Add Up Function

Press the **+** key for known unit price and quantity to add up total price.

Weight window shows added times.

Payment charge

Press the **CH** key and enter the payment amount, the scale will automatically calculate the charge for customer.

Example: The total price is 15 dollar, press this key and enter 20 dollar, on the Unit Price window will be displayed 5 dollar as the charge for customer

P1/P2 Price Look Up (PLU)

Press the **P1** key to select between PLU group 1 (P01 – P20) and PLU group 2 (P21 – P40).

The display will light up the group selected.

Save the Price Look Up (PLU)

Enter the desired unit price and press the **PLU** key, then press one of the 20 PLU memories (P01 – P20), the unit price will be saved in the appointed number.

To change save unit price, just repeat the same steps.

Calibration and Functions Setup

When the scale is brand new and has not been calibrated; it will start automatically with Spec Calibration and Weight Calibration.

In weighing mode:

Press and hold T key and 1 key – Spec and Weight Calibrations
(CAL_ON Calibration switch at ON position)

Press and hold T key and 2 key – Weight Calibration
(CAL_ON Calibration switch at ON position)

Press and hold T key and 3 key in weighing mode – G value look up or calibration. Spec and Weight Calibrations (CAL_ON Calibration switch at ON position or G value calibration set as non-approval standard calibration)

Press and hold T key and 4 key – Standard Functions Setup


Press and hold T key and 5 key – Keyboard test, displays calibration weight internal resolution and version number

Press and hold T key and 6 key – Displays battery voltage, internal value and ADC internal value

Spec and Weight Calibrations

(CAL_ON Calibration switch at ON position)?

Key description

| | | | | |
|---|--------|--|--|--------------|
|  | Enter | | 0-9 | Numeric Keys |
|  | Left | |  | Right |
|  | Escape | | | |

£ 742 1 1

The first two digits are for division setup.

The third digit is for unit price and total price decimal point (cent) setup.

The fourth digit is for G value On or Off for external calibration

The fifth digit is for P1/P2 setup

In case it shows, the calibration has not been switched to ON position. Please switch the switch to On and the scale will automatically start countdown sequence and back to weighing mode.

CR1 OFF

Spec calibration detail description

| D1, D2 | Capacity and division | Price Unit | Range | Resolution |
|--------|--|------------|------------|------------|
| 73 | 6lb x 0.002 lb (above 3 lb) 3 lb x 0.001 lb (3 lb and less) | \$/lb | Dual range | 3000 |
| 74 | 15 lb x 0.005 lb (above 6lb) 6 lb x 0.002 lb (6 lb and less) | \$/lb | Dual range | 3000 |
| 75 | 30 lb x 0.01 lb (above 15 lb) 15 lb x 0.005 lb (15 lb and less) | \$/lb | Dual range | 3000 |
| 76 | 60 lb x 0.02 lb (above 30 lb) 30 lb x 0.01 lb (30 lb and less) | \$/lb | Dual range | 3000 |

For other D1D2 numbers, please check with the manufacturer.

D3 : Unit Price Decimal Point (Cent)

| | |
|---|--|
| 0 | Unit Price/Total Price : Fixed no cent |
| 1 | Unit Price/Total Price : Fixed 0.0 |
| 2 | Unit Price/Total Price : Fixed 0.00 |
| 3 | Unit Price/Total Price : Fixed 0.000 |
| 4 | Unit Price : Manual cent 0.00; Total Price : Fixed no cent |
| 5 | Unit Price : Manual cent 0.00; Total Price : Fixed cent 0.0 |
| 6 | Unit Price : Manual cent 0.00; Total Price : Fixed cent 0.00 |

D4: G Value available for standard calibration or not

| | |
|---|--|
| 0 | G value not available for standard calibration |
| 1 | G value available for standard calibration |

D5: P1/P2 key setup

| | |
|---|--------------------|
| 0 | P1/P2 deactivate |
| 1 | P2 starts from P11 |
| 2 | P2 starts from P21 |
| 3 | P2 starts from P31 |

E 742 11 means that the scale has the capacity of 15 lb with dual range. The price is listed as 0.00, G value is available for standard calibration, and P2 starts from P11.


Weight Calibration

The SW1 calibration switch on the main board switched to ON position

Press the T key and the 2 key in weighing mode to start Weight Calibration

Weight Calibration will not be accessible when SW1 calibration is on CAL_OFF position

The scale reads the calibration zero for 1 second, do not place anything onto the scale
Place the weight mass or use 0 ~ 9 < > keys to change the weight value. Place the weight mass and place the ENTER key



0 15.000

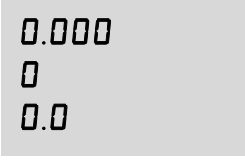
Note: For max capacity of 15 lb, you can use 10 lb weight to do the calibration. It is suggested to use at least 1/3 of maximum up to max for the calibration purpose.

The scale returns to weighting mode.

To calibrate only the initial zero and not weight calibration, just press the enter key



ESC



0.000
0
0.0

G Value Calibration and how to view G value :

Press the T key and the 3 key in weighing mode to start G value calibration
or to view G value

Notes for G values:

1. 10 G values can be entered
- 2. Only one G value can be entered when the calibration switch is at CAL_ON position**
3. Make sure the G value entered is correct to avoid inaccurate weighing
4. The G value will be denied when the value is greater than 9.83217 (Polar

G value) or less than 9.78031 (Equator G value)

※ G value cannot be entered when the G value is set not accessible for standard calibration and SW1 calibration switch is at CAL_OFF position

※ Factory default 9.79423

Function Setup

Press the T key and the 4 key in weighing mode to start Functions Setup

UF1 Backlight

UF2 RS232 Communication

UF3 RS232 Baud rate

UF1. Backlight :

0 Backlight OFF

1 Auto-Backlight (Default Auto-Backlight)



```
UF 1
b l i t
1
```

Press 0 ~ 1 keys to select condition. Press the > key to go to the next function setup. Press the ENTER key to save the change and return back to weighing mode. Press the ESC to abort setup and back to weighing mode


UF2: RS232 :

0 OFF

1 Stable Output

2 Stream Output

3 Accumulation Output (keyboard output) (Default OFF)




```
UF 2
r s 2 3 2
0
```

Press 0 ~ 6 keys to select condition. Press the > key to go to the next function setup. Press the ENTER key to save the change and return back to weighing mode. Press the ESC to abort setup and back to weighing mode

Note: 4 ~ 6 can connect LP50 printer.

UF3. RS232 Baud Rate :

- 0 1200
- 1 2400
- 2 4800
- 3 9600 (Default)
- 4 19200

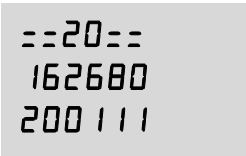


```
UF3
bAud
9600
```

Press 0 ~ 3 keys to select condition. Press the > key to go to the next function setup. Press the ENTER key to save the change and return back to weighing mode. Press the CE to abort setup and back to weighing mode

Keyboard testing, to display calibration weight mass internal value and version number :

Press the T key and the 5 key in weighing mode to test keyboard, to display



```
==20==
162680
200111
```

Weight window displays key quantity

Unit Price window displays calibration weight mass internal value

Total Price window displays version number

Press the ENTER key and the scale will countdown and back to weighing mode

Display battery voltage detected internal value and AD internal value

Press the T key and the 6 key in weighing mode to display battery voltage

detected internal value and AD internal value



Description :

Idle AD internal value if higher than 350,000 lower 75,000 mean it is out of calibration range

battery voltage detected internal value,
 when lower than 5.6V, the battery indicator lights up
 when lower than 5.5V, the battery indicator flashes
 when lower than 5.4V, the scale turns off automatically.
 Regular battery voltage is between 5.4 to 6.5

```
bAt 5.5
Ad
220856
```

Error Messages and Troubleshooting

| Error Display | Meaning | |
|--|-------------------------------------|---|
| hhhhhh | Overload | Weight on pan exceeds maximum capacity |
| LLLLLL | Weight is too low | Weight is too low at the negative |
| ----- | Price is out of range | Total price exceeds 999999 |
| Err n | Weight unstable | Vibration or varying load on the pan during switch-on |
| Err H | Initial zero too high | Scale turned on with weight > 10% of maximum capacity already on the pan |
| Err L | Initial zero too low | Scale turned on with upward force > 10% of maximum capacity acting on the pan |
|  Battery symbol visible | Battery voltage is lower than 5.6 V | Battery needs charging. Connect to main adaptor. Press 【T】 and 【6】 together to view battery voltage. Press 【CE】 to return to weighing mode |
|  Battery symbol flashing | Battery voltage is lower than 5.5 V | Battery needs charging. Connect to main adaptor |
| Scale automatically shuts off | Battery voltage is lower than 5.4 V | Battery needs charging. Connect AC adaptor |



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