Avery Weigh-Tronix

PC-902 Counting Scale

PC-902

User Instructions

ENGLISH - USA

43000-0018 Issue AC June 2008

IMPORTANT

When programming or configuring the equipment you must ensure that you comply with all relevant standards and legislation. The example settings given in this book may not be legal for trade with the public.

Declarations of compliance

United States

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Canada

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n’émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la Classe A prescrites dans le Règlement sur le brouillage radioélectrique edicté par le ministère des Communications du Canada.

Contents

Introduction

1

This manual tells you how to operate the PC-902 high precision counting scale. You can configure your scale for different options and sampling methods. See the PC-902 Service Manual for details on configuration and calibration. This scale also has an RS-232 I/O channel for communication with appropriate remote devices.

The manual is divided into the following sections:

Keyboard and Display

2

Figure 2.1 shows the front panel of the PC-902. This is made up of the keyboard and display.

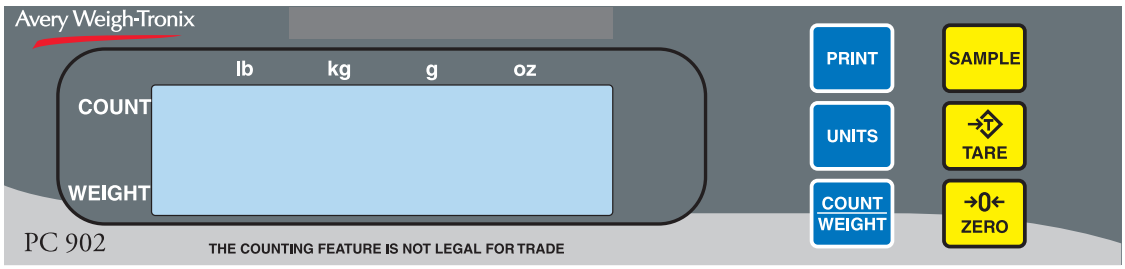


Figure 2.1 PC-902 Front Panel

There are six keys to the right of the display:

- **PRINT** Sends serial data from the RS-232 port to a connected printer. If the unit is configured for PC or Broadcast mode, this key will not function. See the *Service Manual*.
- **UNITS** Press this key to change the displayed unit of measure. If enabled, the choices are lb, kg, g, and oz.
- **COUNT/WEIGHT** Toggles between displaying weight and count when a piece weight is active.
- **SAMPLE** Used to select a sample size and to initiate the calculation of sample piece weight.

  This key also functions as an ON/STANDBY key for battery powered scales. Press the key to start the scale. Press and hold this key for five seconds to put the scale in standby mode. The display will show ***SLEEP***.

  As long as AC is connected to the scale it will power up where it left off unless the scale is SEALED. When sealed it performs the full power up count down and zero reset.
- **TARE** Press this key to tare the weight on the scale. You can also press this after keying in a numeric tare value to accept it and activate net weight mode
- **ZERO** Zeroes the scale weight or count.

The display has seven alphanumeric characters for displaying numbers and messages. Annunciators are built into the display to indicate the following functions:

- **COUNT** Annunciator indicates the scale is in count mode.
- **WEIGHT** Annunciator indicates scale is in weight mode.
- **lb, kg, g, oz** Annunciator indicates the current unit of measure**.**
- **LO BAT** Annunciator indicates the battery has 1 or 2 hours of battery life remaining, depending on battery installed. See the battery information under 3.3 - *Battery Power Option (page 9)*. Recharge the battery when this is displayed.
- **STABLE** Annunciator indicates weight on the scale is stable.
- **TARE** Annunciator indicates a tare weight is in effect and displayed weight is net weight.
- **ZERO** Annunciator indicates the scale is at center zero weight.

Scale Setup and Operation 3

This section of the manual covers getting your scale ready to work and operating the scale. This section is divided into the following:

3.1 Unpacking the Scale

Unpack the PC-902 and remove the shipping materials from around the scale.

3.2 Installing the Scale

Place the scale on a stable, level surface out of the way of air currents. Use the adjustable feet to level the scale. Be sure the scale does not rock back and forth. Lock the feet in position with the knurled locking rings.

The PC-902 comes with the AC transformer in place beneath the scale. Plug the unit into a grounded 120VAC source.

If the battery option is installed, charge the unit for 16 hours before using the scale for the first time.

3.3 Battery Power Option

The PC-902 has an internal and an external battery option.

The battery can be recharged in place by connecting the transformer to a power source and to the scale. The battery will recharge while the scale is being powered by the transformer. See the Battery Information table below for information on charge times, etc. The battery circuits are designed with overcharge protection.

Press the **SAMPLE** key on the front panel to turn the scale on. Press the **SAMPLE** key for five seconds to shut the scale off. You can set the battery option to shutoff the scale automatically after a period of time. See the Service Manual for this information.

Internal Battery

If you ordered the internal battery, it will be installed in the unit prior to shipping.

External Battery

If you are going to use the external battery, remove the transformer from beneath the scale, place the battery in its place with padding between the battery and the scale base and around the battery. Secure the battery with the restraining strap. Plug the battery cable into the receptacle on the back of the scale.

Battery Information

	Internal Battery	External Battery
Amp hours	7	2.8
Charge time	16 Hours	8 Hours
Operation w/Backlight	35 Hours	15 Hours
Operation Hours wo/Backlight	50 Hours	20 Hours
LOBAT displayed	2 hour before shutoff	1 hour before shutoff
Estimated life of battery	400-450 charges	400-450 charges

3.4 Operation as a Scale

The PC-902 can be used as a bench scale or as a counting scale. The annunciators indicate when you are in the weigh mode or count mode and when the unit is configured for pounds, kilograms, grams, or ounces.

While in weight mode, press the **UNITS** key to change the unit of measure.

Small words at the bottom of the display (**LOBAT**, **STABLE**, **TARE, ZERO**) let you know when the battery (if installed) is low, when the scale is stable (no motion), when a tare is in effect, and when the scale is at zero.

Follow these instructions for operating the PC-902 as a scale:

The scale will power up in the counting mode if a piece weight was active when powered down.

1. For AC powered models, plug the unit into a grounded 120VAC source. For battery and AC powered models, the unit will power up when plugged into the outlet or the battery. If the unit is in SLEEP (standby) mode, press the **SAMPLE** key…

*If the display shows **SLEEP** while powered by AC in the unsealed mode, the diagnostics test is skipped on wake up from the SAMPLE key.*

   The scale performs an internal diagnostics test, zeroes the scale, then displays the count or weight. The scale is in the weigh mode when the weight annunciator is lit.

2. If necessary, zero the scale by pressing the **ZERO** key…

   The *ZERO* annunciator illuminates.

3. For gross weighing, place the object to be weighed on the scale…

   Gross weight is displayed.

4. For net weighing, place object to be tared on the scale and press the **TARE** key…

   The *TARE* annunciator illuminates, and zero weight is displayed.

5. Place material to be weighed on the scale.

   Net weight of material is displayed.

6. If your scale is hooked up to a printer or PC and the weight is stable, press **PRINT** to transmit data.

   Formatted weight and count information is printed. The format is selectable. See the *Service Manual* for information on print formats.

3.5 Operation as a Counting Scale

Counting consists of two major steps; entering a piece weight and adding the items to be counted. You enter the piece weight in one of these ways:

- bulk sampling or dribble sampling (**bulk** is the default method)
- reverse sampling, method 1 or method 2 (**method 1** is default). This can be used if either bulk or dribble is enabled.

These are fully explained in their respective sections below along with step by step instructions for counting using these methods. Sampling methods were set up before you received your scale but they can be changed. See the *Service Manual*.

Once a piece weight is established, it remains active until another piece weight is automatically calculated by a sampling process.

General Counting Information

If the *COUNT* annunciator is lit, numbers on the display show the number of pieces on the scale. If the *WEIGHT* annunciator is lit, the display shows the weight of the items on the scale. Press the **COUNT/WEIGHT** key to switch between these two.

If there is no piece weight, the scale will not go into count mode when you press the **COUNT/WEIGHT** key.

After counting items, remove them and the display should return to zero. If not, press the **ZERO** key.

The *STABLE* annunciator is controlled by the weight division setting and STABLE setting in SCALE menu and does not necessarily reflect the stability in the count mode.

You can place a container on the scale and press the **TARE** key to tare the weight. The *TARE* indicator lights to remind you that there is an active tare weight.

When you press the **SAMPLE** key the scale performs an auto-zero or tare.

A counting scale needs a minimum amount of weight to calculate counts with accuracy. Avery Weigh-Tronix recommends the sample weight be a minimum of 0.04% of scale capacity for 99% accuracy. The table below shows the minimum sample weights recommended to guarantee the accuracies listed. Actual minimum sample weight required is 0.02%.

Minimum Sample Weight (lbs)

Scale Capacity	Accuracy Selection			
	None	95%	98%	99%
10 lb	0.0004	0.0008	0.002	0.004
25 lb	0.001	0.002	0.004	0.01
50 lb	0.002	0.004	0.01	0.02
100 lb	0.004	0.008	0.02	0.04

3.6 Counting Using Bulk Sampling

Bulk sampling is an automated sampling method. You place all the items to be sampled on the scale at the same time and the scale will automatically calculate the piece weight and display the count, without any further action.

Follow these steps for bulk sampling.

If you have a container, place it on the scale and press the **TARE** key to tare the container. This can be done in count or weight mode.

1. In weight or count mode, repeatedly press the sample key until the sample size you want is displayed and press **SAMPLE**…

   Your display may show **ZEroing** briefly. This occurs if it takes time for the scale to find the Zero Reference. If a zero reference cannot be acquired within 10 seconds due to excessive vibration, ***Abort*** will be displayed. If this sampling error occurs, check to be sure the scale is stable and start over at step #1. If all is OK, you will see the following:

   Add 5 is displayed. 5 is the default sample size. The minimum sample size can be configured to be 1, 2, 5, 10, 25, 50 or 100. See the PC-902 Service Manual.

Important!
*If there is no active piece weight, the scale will not go into count mode when you press the **COUNT/WEIGHT** key.*

2. Place 5 sample parts on the scale at the same time…

   StAndbY is displayed while the unit computes the weight of the sample and displays the count. If the scale determines that the sample size meets the minimum accuracy requirement, ***5*** will be displayed and you can skip to step 4.

   If the scale determines the sample size does not meet the minimum accuracy requirement, the display will prompt you to ***Add XXX*** more parts. When prompting you, ***Add*** will flash.

   The number ***XXX*** is the result of the scale rounding up, to the next available sample size, from an actual number of pieces it has calculated are needed to meet the required accuracy. For example: If the scale determines that six pieces are needed to be added for the sample weight to meet the minimum for the required accuracy, the display will show the next larger sample size, 10 in this example, and the display will show ***Add 10***.

*When you press the **SAMPLE** key, the PC-902 performs an autozero operation. So, if you have an empty container on the scale and press the **SAMPLE** key, the container weight will be zeroed and when you place the parts to be counted on the scale, only the weight and count of the parts will be shown.*

3. Add the requested samples to those already on the scale at the same time…

   StAndbY is displayed while the scale updates the piece weight. If the sample meets the minimum accuracy, the count will be displayed.

4. Add the items you wish to count to the scale…

   Total count is displayed.

5. Remove the parts from the scale and add more of the same parts to continue counting.

*Press the **COUNT/WEIGHT** key to toggle between count and weight mode.*

3.7 Counting Using Dribble Sampling

Dribble sampling requires one more step than bulk sampling You can count the items to be sampled onto the scale and then press the **SAMPLE** key to begin the piece weight calculation. This can be handy if the items are more easily counted onto the scale one at a time versus all at once.

Follow these steps for dribble sampling.

If you have a container, place it on the scale and press the **TARE** key to tare the container and press the **TARE** key. This can be done in count or weight mode.

1. In weight or count mode, repeatedly press the sample key until the sample size you want is displayed and press **SAMPLE**…

   Your display may show **ZEroing** briefly. This occurs if it takes time for the scale to find the Zero Reference. If a zero reference cannot be acquired within 10 seconds due to excessive vibration, ***Abort*** will be displayed. If this sampling error occurs, check to be sure the scale is stable and start over at step #1. If all is OK, you will see the following:

   Add 5 is displayed. 5 is the default sample size. The minimum sample size can be configured to be 1, 2, 5, 10, 25, 50 or 100. See the PC-902 Service Manual.

Important!
*If there is no active piece weight, the scale will not go into count mode when you press the **COUNT/WEIGHT** key.*

2. Count 5 sample parts onto the scale, wait for the *STABLE* annunciator to light and then press the **SAMPLE** key…

   StAndbY is displayed while the unit computes the weight of the sample and displays the count. If the scale determines that the sample size meets the minimum accuracy requirement, ***5*** will be displayed and you can skip to step 4.

   If the scale determines the sample size does not meet the minimum accuracy requirement, the display will prompt you to ***Add XXX*** more parts. When prompting you, ***Add*** will flash.

   The number ***XXX*** is the result of the scale rounding up, to the next available sample size, from an actual number of pieces it has calculated are needed to meet the required accuracy. For example: If the scale determines that six pieces are needed to be added for the sample weight to meet the minimum for the required accuracy, the display will show the next larger sample size, 10 in this example, and the display will show ***Add 10***.

*When you press the **SAMPLE** key, the PC-902 performs an autozero operation. So, if you have an empty container on the scale and press the **SAMPLE** key, the container weight will be zeroed and when you place the parts to be counted on the scale, only the weight and count of the parts will be shown.*

3. Add the requested samples to those already on the scale. Wait for the scale to stabilize, then press the **SAMPLE** key…

   StAndbY is displayed while the scale updates the piece weight. If the sample meets the minimum accuracy, the count will be displayed.

4. Add the items you wish to count to the scale…

   Total count is displayed.

5. Remove the parts from the scale and add more of the same parts to continue counting.

Press the **COUNT/WEIGHT** key to toggle between count and weight mode.

3.8 Using Reverse Sampling for Counting, Method 1

Method 1 or 2 are chosen in the Service Menu. See the Service Manual for instructions.

Reverse sampling occurs when you place an unknown number of items on the scale, determine a piece weight (by method 1 or 2), and the scale counts items as they are removed from the scale.

Method 1 and 2 are slightly different. Method 1 results in negative counts as parts are removed. Method 2 results in positive counts as parts are removed. Method 1 is explained below, method 2 in the next section.

Method #1 (Default setting)

1. Place full container on the scale.
2. Press **SAMPLE**…

   ADD XXX is displayed.
3. Remove an unknown number of parts from the container. Once stable the scale will acknowledge that the weight is less then initial zero and the message ***Add XXX*** will return.
4. Add the number of parts shown back into the container. If SAMPLE TYPE is set to DRIBBLE mode, press the **SAMPLE** key.…

   The scale will calculate the piece weight and display the number of parts based on the net weight on the scale.
5. To begin reverse counting of parts, clear any entered tare weight, place all the parts back into the container and press **ZERO**. As parts are removed, the count of items removed is displayed as a negative number.

3.9 Using Reverse Sampling for Counting, Method 2

Method 1 or 2 are chosen in the Service Menu. See the Service Manual for instructions.

Reverse sampling is independent of the bulk or dribble modes. It does not matter which of those you have enabled.

Reverse sampling occurs when you place an unknown number of items on the scale, determine a piece weight (by method 1 or 2), and the scale counts items as they are removed from the scale.

Method 1 and 2 are slightly different. Method 1 results in negative counts as parts are removed. Method 2 results in positive counts as parts are removed. Method 2 is explained below, method 1 in the previous section.

Method 2 can be done with or without taring a container. Both ways are explained below:

Method #2 - With a Tare Weight

1. Place an empty container on the scale and press the **TARE** key to enter a tare weight.
2. Place the parts in the container on the scale.
3. Press the **SAMPLE** key…

   ADD XXX is displayed.
4. Remove the number of parts shown by the ***ADD XXX*** prompt…

   The display will flash ***ADD XXX***.
5. Press the **SAMPLE** key…

   The display will show the number of parts remaining in the container.
6. Place the parts that were sampled back into the container…

   The total number of parts is displayed.
7. If you want to see positive counts as items are removed from the scale, press the **ZERO** key…

   The scale will clear the count and tare value and as parts are removed from the scale, the display will show a positive number.

Method #2 - Without a Tare Weight

1. Without a tare weight entered place full container on the scale.
2. Press the **SAMPLE** key…

   ADD XXX is displayed.
3. Remove the number of parts shown by the ***ADD XXX*** prompt…

   The display will flash ***ADD XXX***.
4. Press the **SAMPLE** key…

   The display will show the number of parts removed from the scale.
5. Keep removing parts to see the total number removed.
6. You can add more parts to the scale, then press the **ZERO** key to zero the count and continue removing parts and counting what you remove.

3.10 Clearing a Tare Weight

To clear the current tare weight, press the **TARE** key with no weight on the scale or press the **CLEAR** key followed by the **TARE** key. The active tare will be deleted.

Serial Communications

4

This section covers the serial communications capabilities of the PC-902. In this section you will find:

Default serial settings are: 9600 Baud, 8 databits, No parity, and 1 stop bit

4.1 Cable Pinouts

The RS-232 serial port connection at the rear of the scale is shown in Figure 4.1.

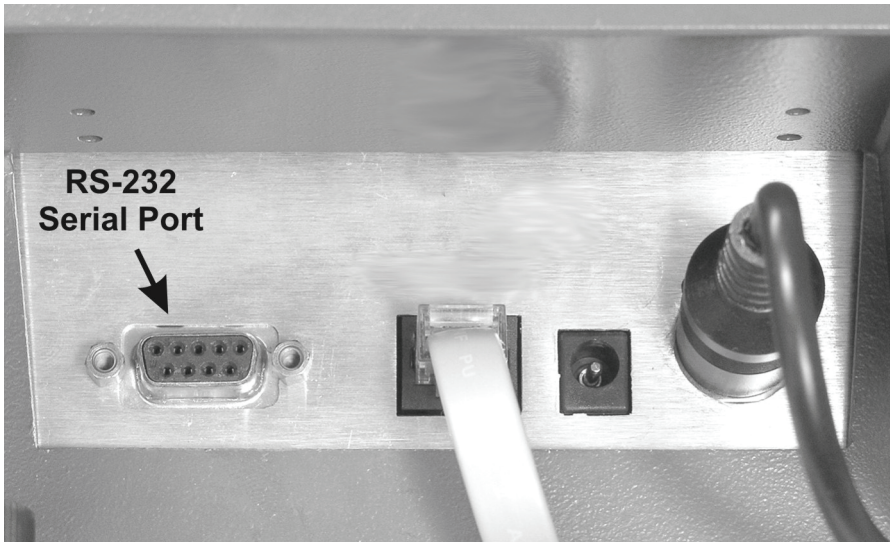


Figure 4.1 PC-902 Back Panel

The functional pinout is as follows:

DB-9F Scale Serial I/O Connector	
Pin	**Signal Description**
1	Reserved
2	TXD
3	RXD
4	Reserved
5	SIG GND
6	Reserved
7	Reserved
8	Reserved
9	+5V

4.2 Preset Print Formats

Imp Printer Formats

8 Formats are available with the Imp printer selected.

LEGEND:

CR = carriage return

LF = line feed

SP = space

U = units character

W = net weight character

C = count character

T = Tare character

G = gross weight character

P = piece weight character

I = weight type identifier ‘G’, ‘T’, ‘N’ (gross, tare or net)

1. Ft 1 = Net weight only-

WWWW.WW<CR><LF>

```
4.410
```

2. Ft 2 = Net weight with units-

WWWW.WW<SP>UU<CR><LF>

```
4.410  lb
```

3. Ft 3 = GTN with units-

‘G’<SP>GGGG.GG<SP>UU<CR><LF>

‘T’<SP>TTTT.TT<SP>UU<CR><LF>

‘N’<SP>WWWW.WW <SP>UU<CR><LF>

```
G  4.410  lb
T  0.000  lb
N  4.410  lb
```

4. Ft 4 = Displayed count or weight with identifier-

In COUNT MODE,

<SP> CCCCCCC<SP>PCS<CR><LF>

```
 276  PCS
```

In WEIGH MODE,

I<SP>WWWW.WW<CR><LF>

```
 G  4.410
```

5. Ft 5 = Displayed weight with identifier and units-

In COUNT MODE,

<SP> CCCCCCC<SP>PCS<CR><LF>

```
 276  PCS
```

In WEIGH MODE,

I<SP>WWWW.WW<SP>UU<CR><LF>

```
 G  4.410  lb
```

6. Ft 6 = Net weight with units, count and piece weight-

Net = **WWWW.WW<SP>UU<CR><LF>**(Net = or Gross =)

Count = **CCCCCCC<CR><LF>**

Piece Wt = **PPPPPP<SP>UU<CR><LF>**

```
 GROSS  WT:  4.410  lb
 COUNT       0
 PIECE  WT:  0.000000000  lb
```

7. Ft 7 = Net weight only with polarity and units in a fixed field format.

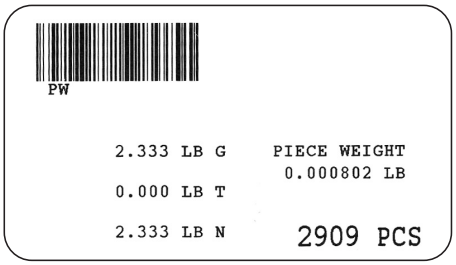
<SP/->WWWW.WWW<SP>UU<CR>

```
 4.410  lb
```

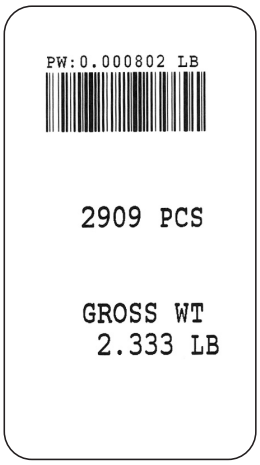
8. Ft 8 = Count only with a fixed field format-
COUNT:**<SP>CCCCCCC<SP>PCS<CR><LF>**

Dymo Label Writer Setra 300 Formats

FMT 1
2¼" x 4"



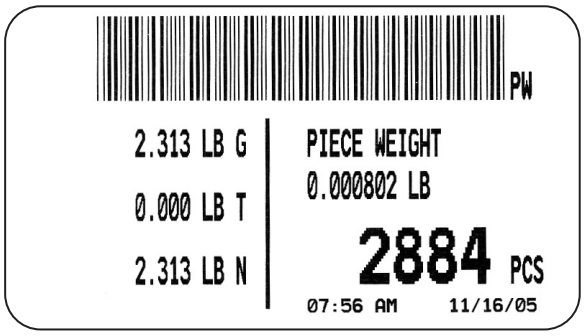
FMT 2
2¼" x 4"



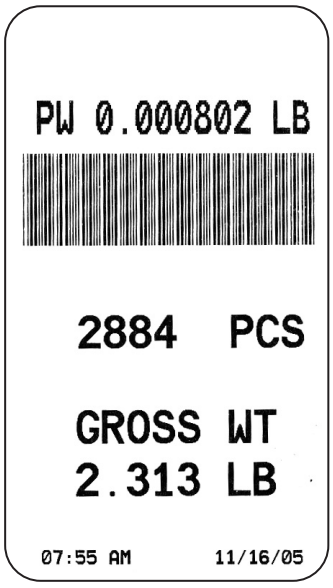
FMT 3
1" x 1"

Zebra 2844 Printer Formats

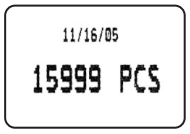
FMT 1
2¼" x 4"



FMT 2
2¼" x 4"



FMT 3
1¼" x 0.85"



Time and date will appear only if the printer has this option installed.

PC Protocol

The scale's RS-232 bidirectional communication works in a master/slave protocol. A computer or master sends a command code to the scale (slave) which will return a response to the master device or perform a scale function. Commands to the scale are in uppercase, terminated with a carriage return. Scale responses begin with the lowercase equivalent of the command code.

COMMAND	RESPONSE	DESCRIPTION
CA<CR>	none	Clear Sample
CC<CR>	cc_xxxxx<CR>	Request piece count
CP<CR>	cp_x.xxxxxxuu<CR>	Request piece weight value
CM<CR>	none	Switch to count mode
DIxxxxxxx<CR>	none	Display Message xxxx (message is 7 characters max)
IC<CR>	none	Reset Scale (warm start)
PWx.xxxxx_uu<CR>	none	Loads x.xxxxx as piece weight
TR<CR>	tr_ _ _ _x.xxxuu<CR>	Request tare value
TZ<CR>	none	Clear the current tare
Txxxx.x_uu<CR>	none	Loads xxxx.x as tare
WD<CR>	wd_ _ _xx.xxx<CR>	Request net weight
WE<CR>	we_ _ _xx.xxxuu<CR>	Request net weight with units
W<CR>	w_ _ _ _x.xxxuuHML<CR>	Request net weight with units and status
WG<CR>	wg_ _ _xx.xxxuu<CR>	Request gross weight with units
WM<CR>	none	Switch to weight mode
WS<CR>	ws_HML<CR>	Request scale status
WZ<CR>	none	Zero the scale

Legend:

1) "_" represents the ASCII space character

2) "u" represents the units of measure character(s):
   "LB" for pounds
   "KG" for kilograms
   "G" for grams

3) <CR> represents the ASCII carriage return

4) HML represents three bytes of scale status information as described under *Status Bytes* below.

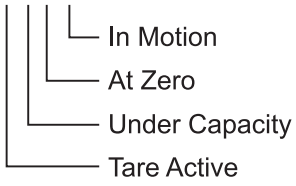
5) Value entered is assumed to be in same units of measure as what the scale is currently in.

6) Display messages are limited to seven characters.

Status Bytes

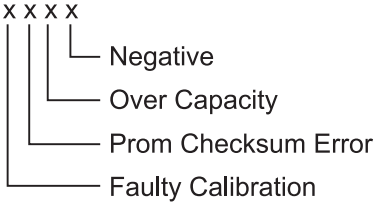
H: BIT 7 6 5 4 3 2 1 0

0 0 1 1 x x x x



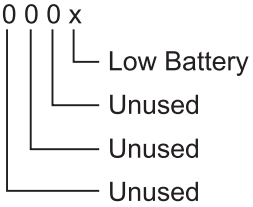
M: BIT 7 6 5 4 3 2 1 0

0 0 1 1 x x x x



L: BIT 7 6 5 4 3 2 1 0

0 0 1 1 0 0 0 x



NCI Protocol

Key to symbols used:

<STX>	Start of Text
<ETX>	End of Text character
<LF>	Line Feed character
<CR>	Carriage Return character
<SP>	Space
X	Weight characters from display including minus sign and out-of-range characters
HML...	Three status bytes
uu	Units of measure (lb, kg, oz, g, etc. using ANSI standard abbreviations).

Command	Possible Scale Response	Notes*	Descriptions
W<CR>	<LF>XXXXX.XXuu<CR><LF>[HML]<CR><ETX	1,2	Returns weight
H<CR>	<LF>XXXXX.XXXuu<CR><LF>[HML]<CR><ETX>	1,2	Returns weight in high resolution
Z<CR>	<LF>[HML]<CR><ETX>		Zeros scale
S<CR>	<LF>[HML]<CR><ETX>		Returns scale status
T<CR>	<LF>[HML]<CR><ETX>		Tares the scale
M<CR>	<LF>XXXXXXXXMM<CR><LF>[HML]<CR><ETX>		Returns raw counts
U<CR>	As if UNITS key was pressed		Changes unit of measure
All other	<LF>?<CR><ETX>		Bad command

***NOTES**

1. The decimal point position may be different depending on selected capacity and division. There may not be a decimal point in some gram's unit of measure.
2. The character count will be one more if the decimal point is included.

The NCI protocol may have three status bytes. The status bits are defined as follows:

Bit	Status Byte 1	Status Byte 2	Status Byte 3
0	1 = Scale in motion 0 = Stable	1 = Under capacity 0 = Not under capacity	00 = Low range 01 = (undefined) 10 = Mid range 11 = High range
1	1 = Scale at zero 0 = Not at zero	1 = Over capacity 0 = Not over capacity	
2	1 = RAM error 0 = RAM okay	1 = ROM error 0 = ROM okay	1 = Net weight 0 = Gross weight
3	1 = EEPROM error 0 = EEPROM okay	1 = Faulty calibration 0 = Calibration okay	1 = Initial zero error 0 = Initial zero OK
4	Always 1	Always 1	Always 1
5	Always 1	Always 1	Always 1
6	Always 0	Always 1	Always 0
7	Parity	Parity	Parity

Broadcast Protocol

Broadcast protocol will support the use of the RD-4100, RD-6100 and Evolution series indicators as remote displays.

The broadcast protocol will output this display string:

G<SP>00000<SP>lb<CR><LF>

Error Messages

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The error messages you might see on the display are shown below.

Error message	Error condition
no CAL	Scale has not yet been calibrated
Lo bAt	Low Battery voltage
SPL Err - Abort	Sampling error, aborting process. Use next available sample size.
CAn't	Unable to perform the requested function
------- (middle segments)	Unable to perform automatic zero balance on power-up
------- (upper segments)	Over-range condition
------- (lower segments)	Under-range condition

Specifications

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Capacity (lb)	Available Countby Values				
	5,000d	NTEP (Default)	25,000d	50,000d	100,000d
10	.002	.001	.0005	.0002	.0001
25	.005	.002	.001	.0005	.0002
50	.01	.005	.002	.001	.0005
100	.02	.01	.005	.002	.001

Capacity (kg)	Available Countby Values				
	5,000d	NTEP (Default)	25,000d	50,000d	100,000d
5	.001	.0005	.0002	.0001	.00005
12	.002	.001	.0005	.0002	.0001
25	.005	.002	.001	.0005	.0002
50	.01	.005	.002	.001	.0005

Capacity (g)	Available Countby Values				
	5,000d	NTEP (Default)	25,000d	50,000d	100,000d
5000	1	.5	.2	.1	.05
12000	2	1	.5	.2	.1
25000	5	2	1	.5	.2
50000	10	5	2	1	.5

Resolution can be expanded up to 500,000 divisions depending on the application.

Capacity (oz)	available countby values				
	5,000d	NTEP (Default)	25,000d	50,000d	100,000d
160	.05	.02	.01	.005	.002
400	.1	.05	.02	.01	.005
800	.2	.1	.05	.02	.01
1600	.5	.2	.1	.05	.02

Internal Resolution: 1:2,000,000

Dimensions:

Weighing Platform: 12.6” X 14.08”, 25, 50 & 100 lb capacity
8” diameter, 10 lb capacity

Display Assembly: 6.31” x 12.86”

Overall Dimensions: 17.50” x 14.08” x 4.25-5.40”

Construction: Diecast aluminum base and load bridge, Stainless Steel Weight Platter, ABS plastic display assembly

Display: Large 0.5” H 7-digit / 7-segment Backlit LCD display.

Response Time (typical) The dynamic response of the scale is adjustable through the filtering selection. The time weight is applied to scale to the time stable weight is displayed which varies depending on the amount of weight applied and any filtering that is in effect.

		Stability Time	
	Weight Applied	**Filter On**	**Filter Off**
Internal scale	0 - 1000d	1.0 sec	.75 sec
	+1000d	1.25 sec	1.0 sec
External scale	0 - 1000d	1.5 sec	1.25 sec
	+1000d	2.0 sec	1.75 sec

Battery Saver Selectable modes of 5,10,20,30, and 60 minutes for auto shut-off and adjustment of backlit to auto or off to increase battery performance.

Power Supply

Standard: 120 Vac +10% -15% standard 3 wire w/ground @ 60 Hz +/- 3 Hz

9 VDC @ 1.3 Amps DC minimum

UL approved

Optional: 230 Vac +10% - 15% with universal connector @ 50 Hz +/- 3 Hz

9 VDC @ 1.8 Amps DC minimum

CE approved

Internal / External Battery Sealed lead acid with a full charge value of 6.8 +/- .1 volts at 2.8 AH (external) or 7.0AH .

Operating Environment:

+5 to 40 degrees C(Class III Device)

+5 to 35 degrees C(Class II Device)

10 to 90% RH, non-condensing

Agencies:

NTEP 12,500 divisions pending, Class II (25, 50 lb capacities)

NTEP 10,000 divisions pending, Class III (10, 100 lb capacities)

OIML 10,000 divisions single interval, 6,000 divisions multi-interval

Avery Weigh-Tronix USA
1000 Armstrong Dr.
Fairmont MN 56031 USA
Tel: 507-238-4461
Fax: 507-238-4195
Email: industrial@weigh-tronix.com
www.wtxweb.com

Avery Weigh-Tronix UK
Foundry Lane,
Smethwick, West Midlands,
England B66 2LP
Tel: +44 (0)870 903 4343
Fax: +44 (0)121 224 8183
Email: info@awtxglobal.com
www.averyweigh-tronix.com

Avery Weigh-Tronix