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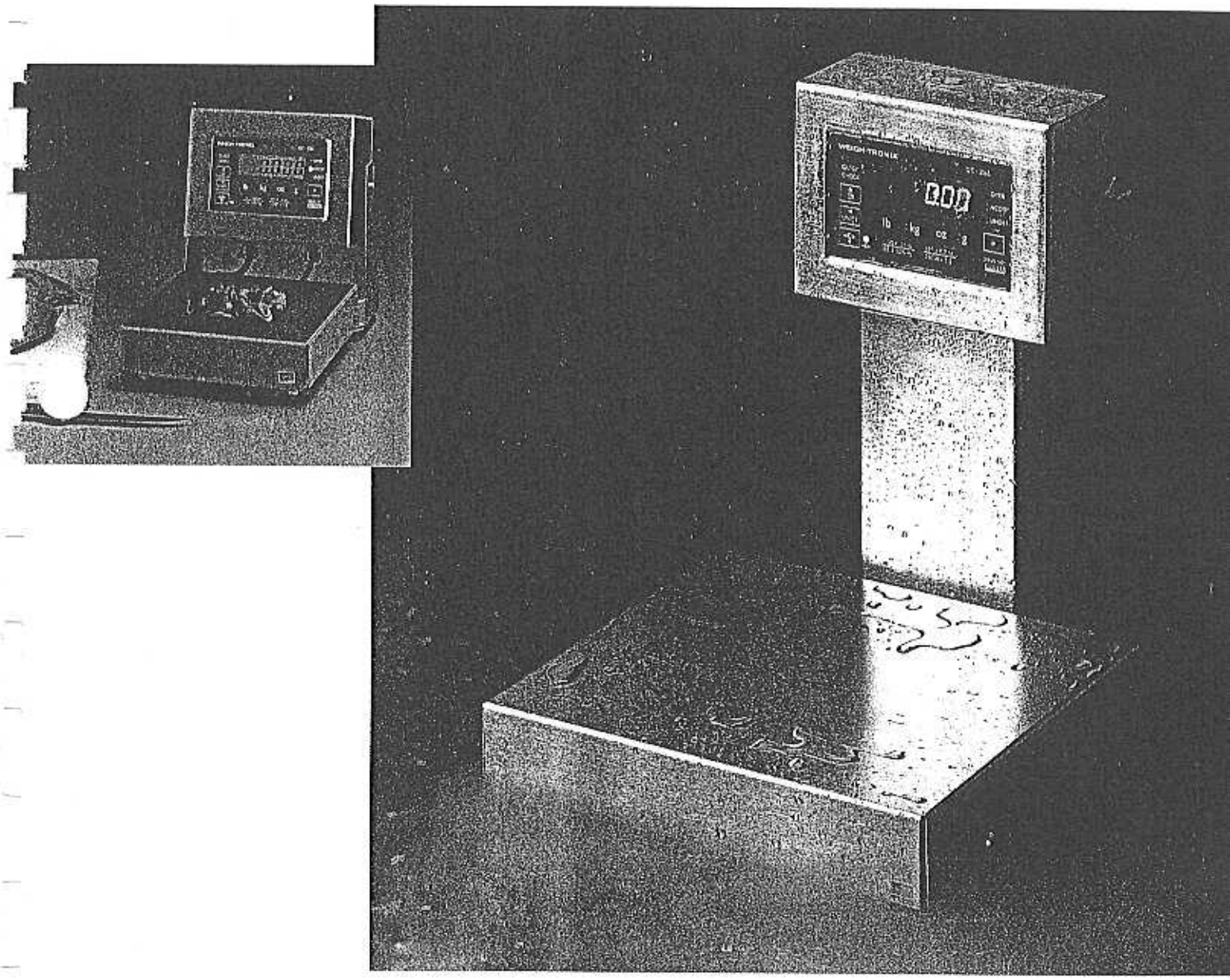
WEIGHING & SYSTEMS GROUP

WEIGH-TRONIX



QC-3265 Checkweigher
Service Manual

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Specifications

Display
7 segment LCD, 6 digits, 0.7 inch high with 5 decimal points
7 segment LED, 6 digits, 0.6 inch high with 5 decimal points

Light Emitting Diodes
8 LEDs for the following functions:
OVER - yellow *ACCEPT* - green *UNDER* - red
lb - red *kg* - red *oz* - red *g* - red
Center of Zero - green

A/D Conversion Rate
60 Hz. Delta-Sigma type converter

Internal Resolution
4,718,592 counts per mV/V per second

Excitation for Load Cells
Voltage : 6 volts DC (LCD), 10 volts DC (LED)
Available Current: 69 mA (four 350 ohm load cells) LCD
114 mA (four 350 ohm load cells) LED

Power Requirements
*115 VAC +10% to -15% @ 0.10 Amp maximum
230 VAC +10% to -15% @ 0.05 Amp maximum
12 VDC (10 to 15 volts) @ 80 mA with 1 load cell
@ 131 mA with 4 load cells
> LCD only

Battery Information
Available for LCD version only. 30 Hour battery life. 14 hour recharge time. Low battery warning. Low power shutoff. Charging can occur during AC operation.

Accuracy
Handbook 44 for 6,000 divisions (-10 to 40°C)

	-10 to 40°C	**-30 to 60°C**
Zero:	±.085 µV/°C	±0.17 µV/°C
Span:	±5.0 ppm/°C	±10 ppm/°C

(For scale base, 3000 divisions)

Linearity
±0.005% of capacity, maximum (For base, ±0.01%)

Repeatability
±0.005% of capacity, maximum (For base, ±0.01%)

Hystersis
0.005% of capacity, maximum (For base, 0.01%)

Calibration and Programming
All calibration and programming is done through the front panel with data stored in nonvolatile memory.

Display Rates
1, 2, 5, or 10* times per second

Filtering
1*, 2, 5, or 10 display intervals

Push Button Zero Range
±1%, ±2%, ±5%, ±10%, ±20%, ±50%, ±100%* of Capacity

Motion Detection Window
d = 1 displayed division
±0.25 d, ±0.5 d, ±0.6 d, ±1 d*, ±2 d, ±3 d, ±5 d

Automatic Zero Tracking
d = 1 displayed division
Window: ±0.25 d, ±0.5 d, ±0.6 d*, ±1 d, ±2 d, ±3, ±5 d,
Rate: 0.1 division per second
Starting Delay: 2 seconds

Over Range Capacity
The scale displays weights up to capacity plus 9 divisions, referenced from the zero value determined by zero setting point, or 105% of capacity, referenced from the deadload.

*** = default**

Under Range Capacity

The scale displays weights in the negative direction using the same restrictions as for over-range, but further limited by the number of display digits available.

Temperature Range

-10 to 40°C (14 to 104°F)
-30 to 60°C (-22 to 140°F) with reduced accuracy

Humidity

Up to 100% relative humidity.

Scale Capacity and Division

Pounds	Ounces	Kilograms	Grams
6 x .002	100 x .05	3 x .001	3000 x 1
6 x .001	100 x .02	3 x .0005	3000 x .5
*12 x .005	200 x 0.1	6 x .002	6000 x 2
12 x .002	200 x 0.05	6 x .001	6000 x 1
30 x .01	480 x 0.2	15 x .005	15000 x 5
30 x .005	480 x 0.1	15 x .002	15000 x 2
60 x .02	960 x 0.5	30 x .01	30000 x 10
60 x .01	960 x 0.2	30 x .005	30000 x 5
100 x .05	1600 x 0.5	45 x .02	45000 x 20
100 x .02	1600 x 0.2	45 x .01	45000 x 10
200 x .1	3200 x 1	90 x .05	90000 x 50
200 x .05	3200 x .5	90 x .02	90000 x 20

* = default

Options

- LCD & LED versions
- 230 VAC 50/60 Hz power
- Battery and charger (available with LCD version only)
- RS-232 or RS-485 interface board
- Short and extended towers
- Remote head
- NTEP load cells

Introduction

The Quick Check QC-3265 Checkweigher is a low-cost, high-speed production checkweigher housed in stainless steel for harsh, washdown environments. This service manual is divided into the following sections:

- Introduction
- Front Panel
- Installation
- User Menu
  - Calibration
  - Configuration

If you have any problems with your QC-3265 Checkweigher, call your local Weigh-Tronix distributor.

Front Panel

Figure 1 shows the front panel. The panel consists of the following:

- a six-digit, liquid crystal or LED display
- five keys;
  QUICK CHECK
  ▲TARGET
  ◀ UNITS
  CENTER OF ZERO ▼
  ▶ (Right arrow key)
- a center of zero annunciator
- four unit of measure annunciators; lb, kg, oz, g
- three checkweigher annunciators; OVER, ACCEPT, UNDER

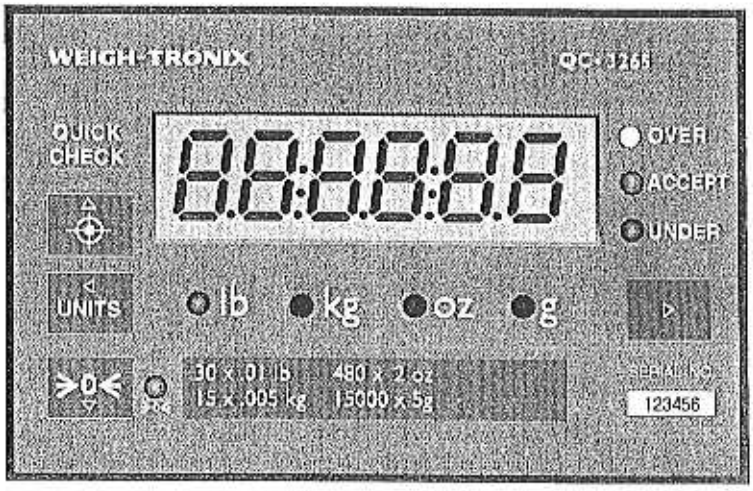


Figure 1
QC-3265 Front Panel

Keys

Following are the keys and their functions.

If for some reason the QC-3265 cannot perform a key function (due to motion, range limits, and others) the display will show ***CAN'T*** *while the key is held down.*

Key names are abbreviated in many of the instructions of this manual. Instead of saying the up arrow-TARGET key every time it is shortened to this symbol ^.

^ = up arrow key

v = down arrow key

< = left arrow key

> = right arrow key

QUICK CHECK

Press this key to toggle between checkweigh mode and weight display mode, assuming you have an active target weight. Use the **QUICK CHECK** key to return to the weight display and checkweigh modes from anywhere in the menus. Press this key to accept a displayed selection and return to a display mode.

Use the up arrow-**TARGET** key to set the target weight. With no weight on the scale, press this key to remove a target weight and enter the weight display mode. With a weight on the scale, press this key set the target weight and to enter the Checkweigh mode from the weight display mode. Also, press this key to move up in the menus.

Use the left arrow-**UNITS** key to change the unit of measure in weight display mode and checkweigh mode. This key works only if more than one unit of measure is enabled. Use this key to move to the left in the menus.

Use the **ZERO**-down arrow key to zero the scale while in either display mode. In the A/D test mode this key sets the offset to zero. Use this key to move down in the menu hierarchy. With a selection displayed, press this key to select that item and go up one menu level.

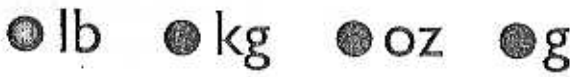
Use the right arrow key to move to the right in the menus.

Annunciators

Target weight and the tolerances are saved in nonvolatile memory. They are not lost when the unit is powered down.

The *OVER*, *ACCEPT*, and *UNDER* annunciators are to the right of the display and are shown below. The *OVER* light is yellow, the *ACCEPT* light is green and the *UNDER* light is red.

The unit of measure annunciators are below the display and are reproduced below. The lit annunciator tells you the currently selected unit of measurement.



The center of zero annunciator, reproduced below, is next to the **ZERO** key. When the annunciator is lit the scale is within ±¼ division of zero.

Installation

Installation

There is no ON/OFF switch. When the unit is plugged in it will power up.

The scale powers up in weight display mode if there is no target weight in memory.

If there is a target weight in memory, the scale will power up in the checkweigher mode.

If the battery option is installed and enabled, press any key to start.

Place the QC-3265 on a stable, level surface.

Use the leveling feet to level the scale. A bubble level is provided and is visible behind the scale platform at the base of the tower or under the scale platform near the load cell. Lock the feet in this position using the locknuts on the feet.

Plug the unit into a properly grounded 115VAC outlet.

User Menu

Over and Under tolerance can be set from the User menu or the Setup menu but not both. The choice where the tolerances appear is made in the Setup menu. The tolerances will not appear in the User menu if they appear in the Setup menu and vice versa.

^ = up arrow key

v = down arrow key

< = left arrow key

> = right arrow key

If you change the tolerance but decide you would rather keep the original value, press the ^ key in step 2 to return to ***OVER*** *without accepting the displayed value.*

Target weight and the tolerances are saved in nonvolatile memory. They are not lost when the unit is powered down.

When you press the > key from either the checkweighing (deviation display) or the weighing (weight display) mode you access the User menu (see Figure 2). Below are descriptions for all the menu items in the User menu:

OVER & UNDER

OVER stands for over tolerance. Use this menu item to change the over tolerance by following these steps:

1. With **OVER** displayed, press the **v** key. . .

   o ***0.5*** is an example of what might be displayed. **o** stands for over tolerance and the value is the current over tolerance. The actual value depends on the unit of measure and division size. The over LED is lit.

2. Press the **<** key to decrease the value and the **>** key to increase the tolerance value. Press the **v** key to accept the displayed value.

   OVER is displayed.

3. Press the **>** key. . .

   UNDER is displayed.

4. Press the **v** key. . .

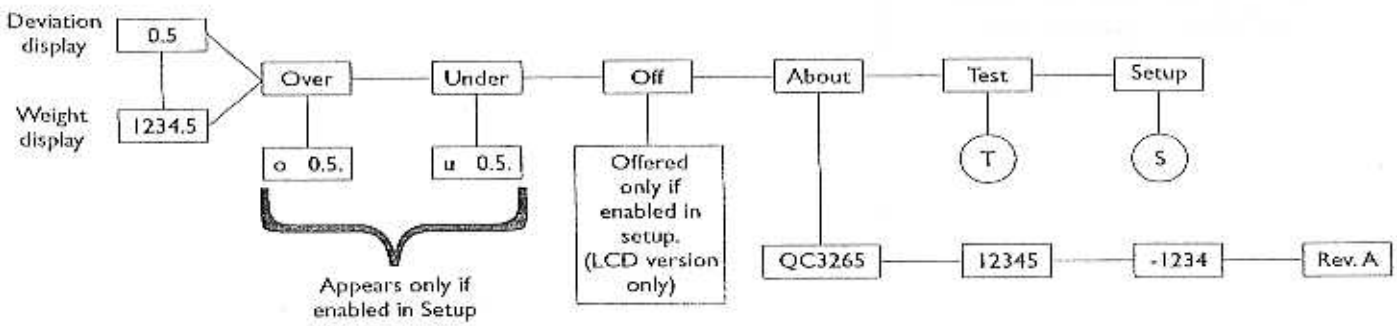
   u ***0.5*** is an example of what might be displayed. ***u*** stands for under tolerance and the value is the current under tolerance. The under LED is lit.

5. Repeat step 2. . .

   UNDER is displayed

6. Press the **>** key. . .

   OFF or ***ABOUT*** is displayed.



Move to the right by pressing the > key
Move down by pressing the v key
Move left by pressing the < key
Move up by pressing the ^ key.

Figure 2
User Menu

OFF (LCD version only)

OFF is next. This item appears only if *BAT.* is chosen in the setup menu. With *OFF* displayed, press the **v** key to turn off the QC-3265. Press any key to turn the unit back on. It will start up in the display mode in use when powered down.

ABOUT

ABOUT is the next menu item displayed. This item contains information about the QC-3265.

1. Pressing the **v** key with ***ABOUT*** displayed. . . — ***QC3265*** is displayed.
2. Press the **>** key to step through the EPROM part number, dash number, revision letter, and then back to ***QC3265.***
3. Press the **^** key to go back to the ***ABOUT*** display. Press the **>** key to go to the next menu item. — ***TEST*** is displayed.

TEST

TEST is the next menu item. Under this menu item you will find a variety of tests and displays. Press the **v** key with ***TEST*** displayed and you access the test menu shown in Figure 3. Use the **v**, **^**, **<**, and **>** keys as before to move through the menu.

Press the **v** *key once, then use the* **<** *or* **>** *keys to step through the display one step at a time.*

AUDIT Lets you see the CA (calibration) audit number and the CF (configuration) audit number.

DISP. Press the **v** key twice to perform a display segment test. Press the **<** or **>** key to change the direction of the test. Press the **^** key twice to stop the test and return to ***DISP.***

BUTTON Lets you check the function of each key. Figure 3 shows you what will be displayed as you press each key.

VOLTS Shows you the voltage at the voltage regulator.

A to D Shows the output of the A to D converter with a sensitivity of 20,000 counts per mV/V. Can be zeroed using the **ZERO** key. Use to isolate load cell, cable and electronic problems.

SERIAL Lets you perform READY/BUSY and LOOP/NOLOOP tests to check the serial port. These tests may be used to isolate communication problems.

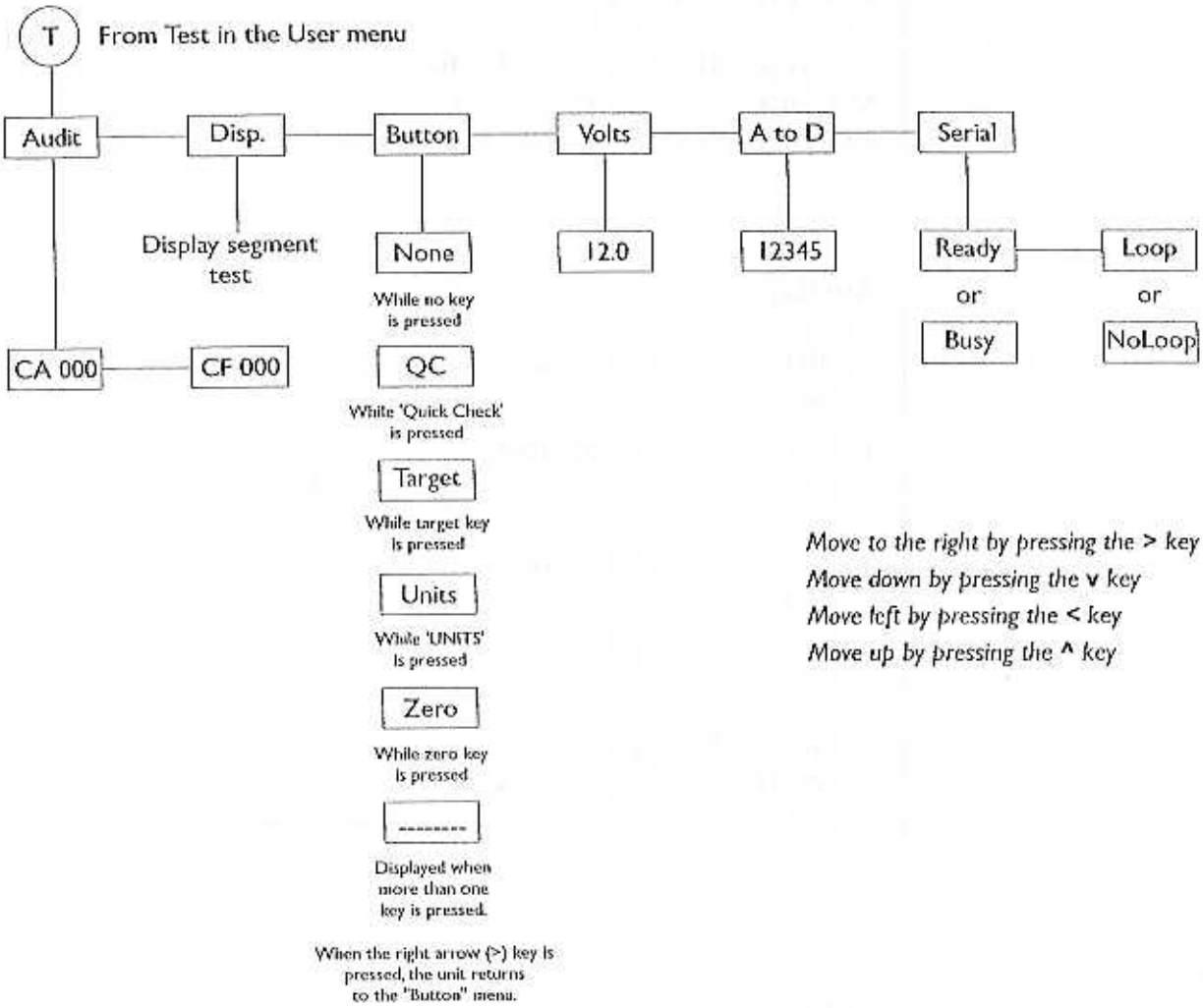
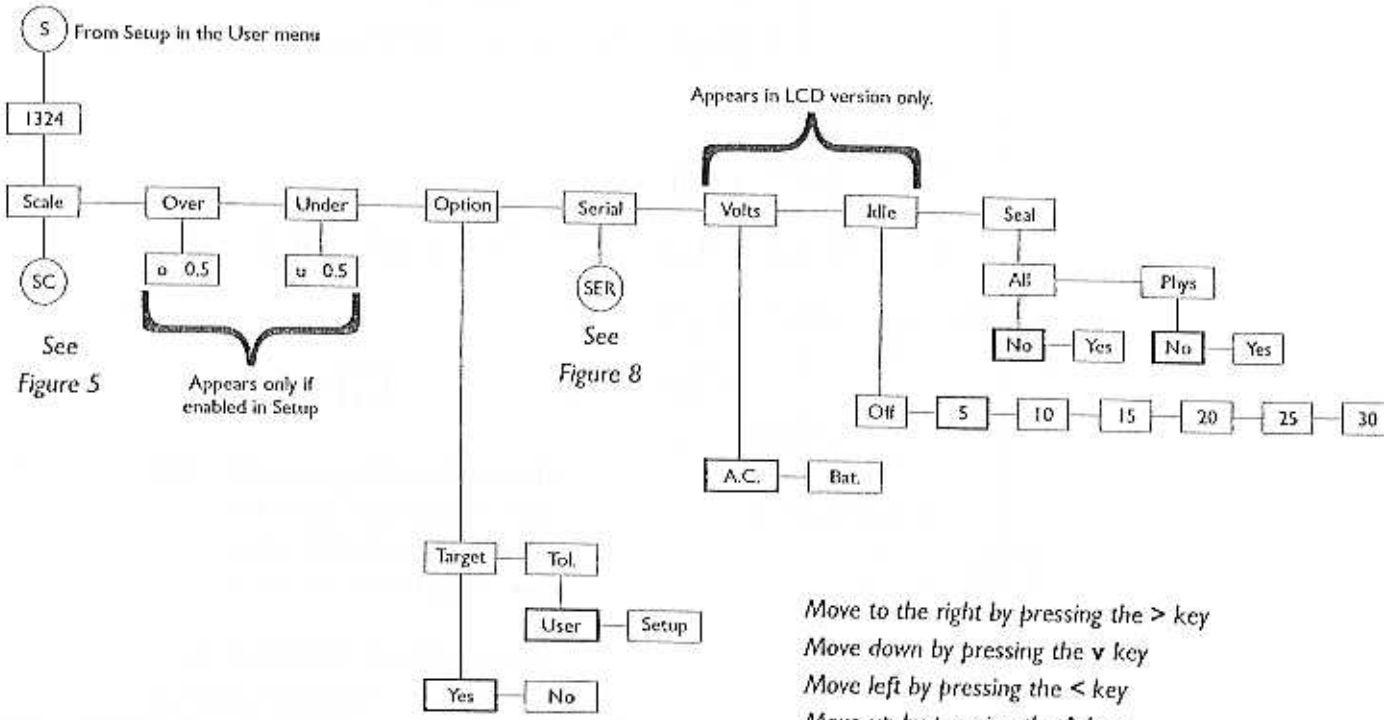


Figure 3
Test Menu

Configuration

SETUP

This is a password protected menu and is used for basic setup, configuration and calibration of the unit. See Figures 4 through 9. After these menus are the explanations for each item.



Move to the right by pressing the > key
Move down by pressing the v key
Move left by pressing the < key
Move up by pressing the ^ key

IF A MENU CHOICE IS DISPLAYED:
Select that choice pressing the v key
Move up without making a change by pressing the ^ key

Figure 4
Setup Menu

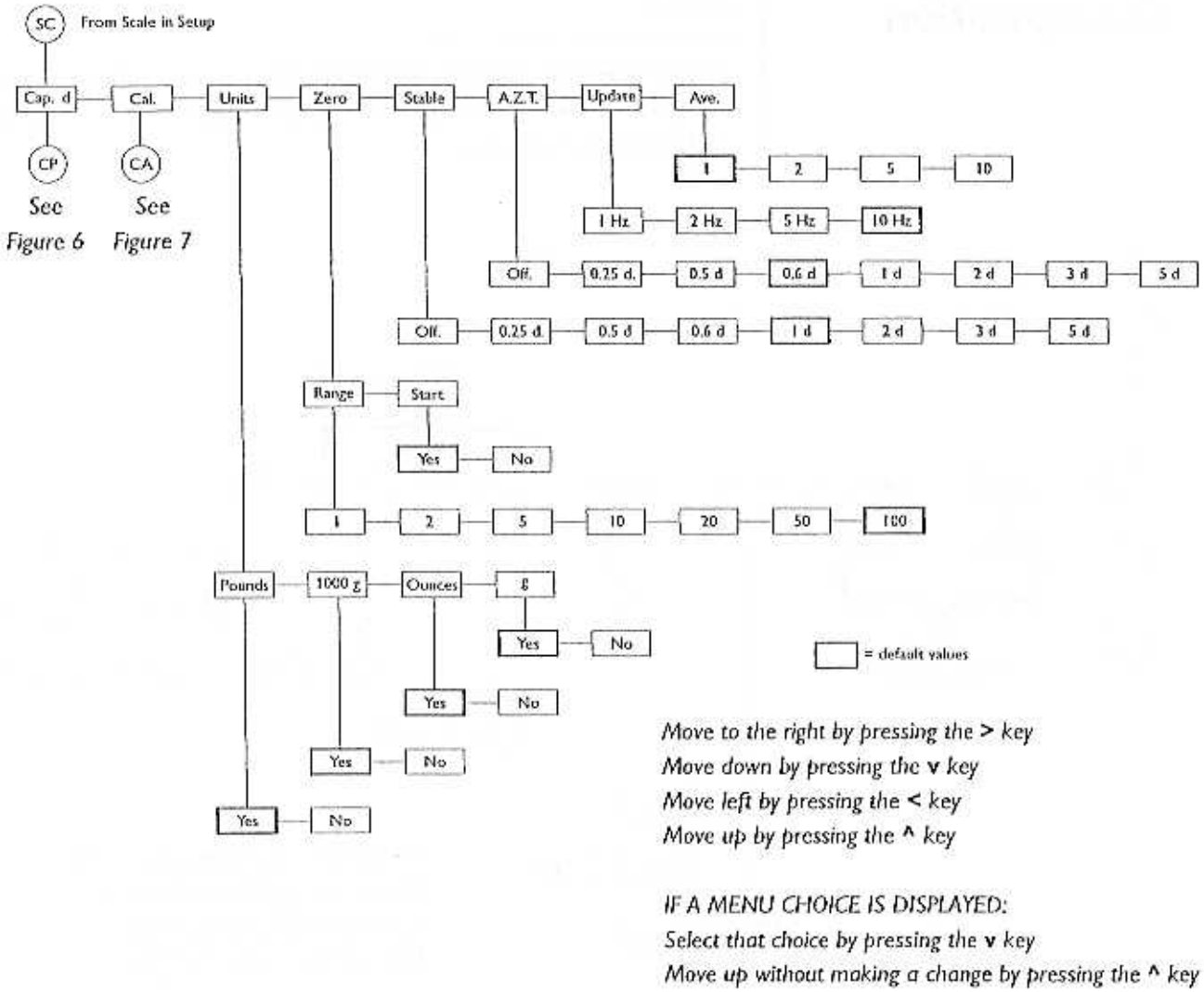


Figure 5
Scale Menu

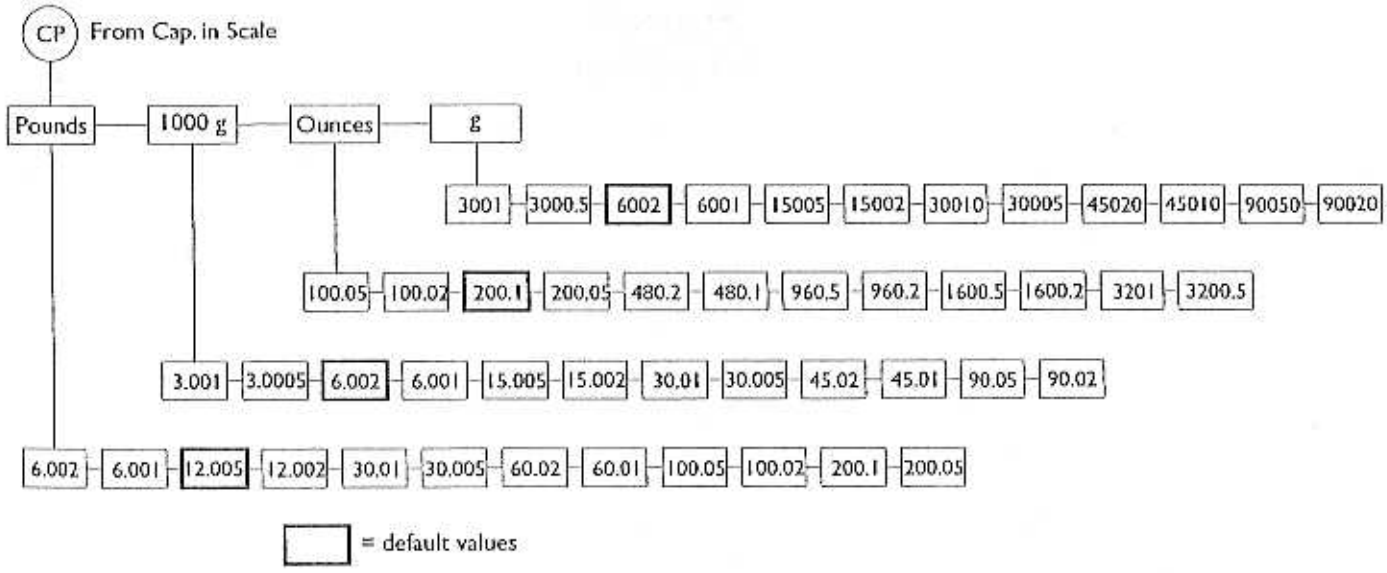
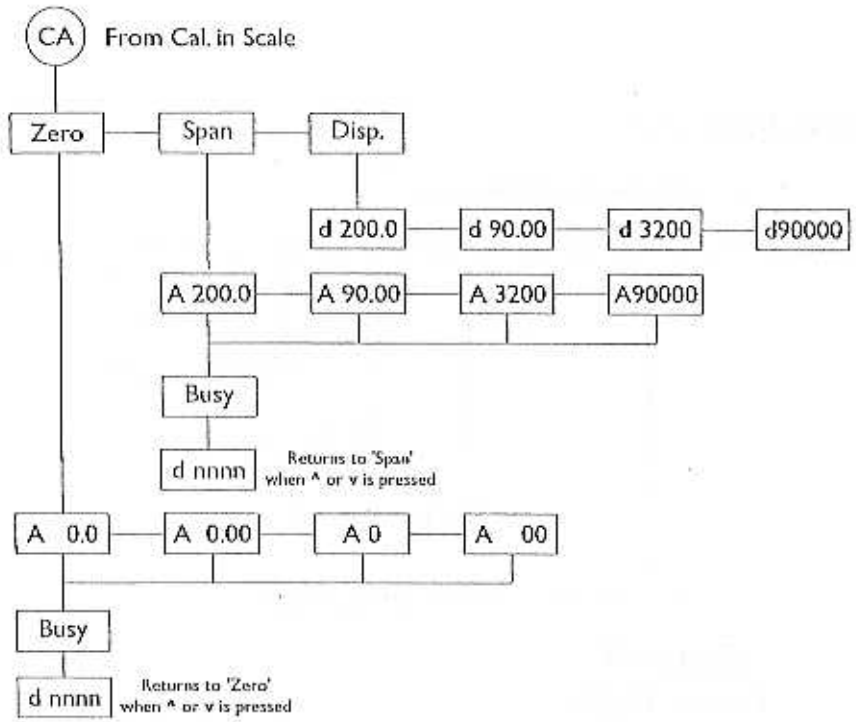


Figure 6
Capacity menu



Alternate span test weights are available for the various capacities. See the table below:

Scale Capacity	Alternate Span Weight
6lb	5lb
12lb	10lb
30lb	25lb
60lb	50lb
6kg	5kg
30kg	25kg
45kg	50kg
90kg	100kg
100oz	80oz
200oz	160oz
480oz	400oz
960oz	800oz
6000g	5000g
30000g	25000g
45000g	50000g

Figure 7
Calibration menu

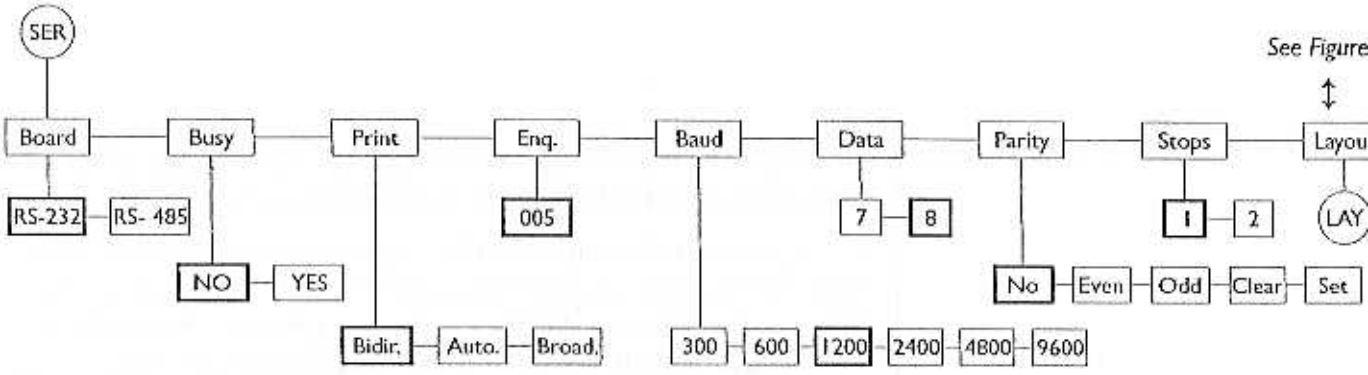


Figure 8
Serial Menu

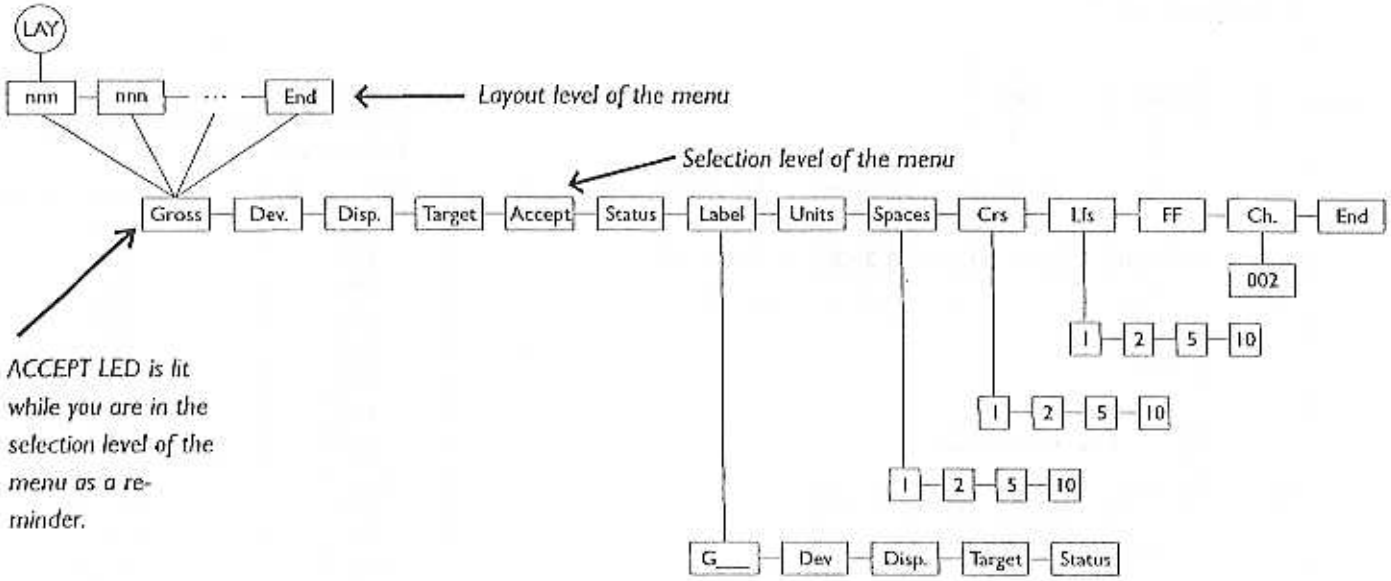


Figure 9
Layout Menu

Password protection

The setup menu requires a password entry before any items can be edited. The items can be viewed if the password is ignored but no changes will be possible.

When you access the setup menu a four digit number is displayed. Each digit is from 1-4. Every time you access this menu the number is randomly generated. These numbers correspond to the four keys along the left side of the front panel. The **QUICK CHECK** key is #1, the **TARGET** key is #2, etc. You need to enter this random number in **reverse order** to gain access to the edit capability.

EXAMPLE: If the number is 2413 -

press the 3 key (**UNITS**)
press the 1 key (**QUICK CHECK**)
press the 4 key (**ZERO**)
press the 2 key (**TARGET**)

Remember to press the password keys in the reverse order of their display on the screen.

After the four keys are pressed, press the **v** (down arrow) key to move down in the menu structure.

SCALE

SCALE is the first item displayed. The menu items under ***SCALE*** are shown in Figures 5, 6 and 7 and are described below.

CAP. d

1. With ***SCALE*** displayed, press the **v** key. . .

CAP. d is displayed. This stands for capacity and division size. See Figure 6. This allows you to determine the capacity and division size for your unit. Select a capacity and division size in one unit of measure and the capacity and division size for the other units of measure are chosen automatically.

Select a capacity and division in one unit of measure and the capacity and division size for the other units of measure are chosen automatically.

2. Use the arrow keys to view the capacity and division size you want in any unit of measure. With the correct capacity and division size displayed, press the **v** key. . .

The capacity and division size are accepted and the display returns to the unit of measure name.

^ = *up arrow key*

v = *down arrow key*

< = *left arrow key*

> = *right arrow key*

3. Press the **^** key to return to the ***CAP. d*** display.

4. Press the **>** key to move to the next menu.

Calibration

CAL.

CAL. is next. This stands for calibration. Press the **v** key to see the menu structure shown in Figure 7. Use this menu and the instructions below to calibrate your QC-3265.

ZERO

1. With ***CAL.*** displayed, press the **v** key. . .

ZERO is displayed. Use this to establish the scale's deadload value.

2. Press the **v** key. . .

As an example, **A 0.000** is displayed. The letter ***A*** is displayed to make it clear you are not in the weight display mode. The zero value may be displaye

differently. It depends on what unit of measure and division size you have selected. You may change the unit of measure while in this display by pressing the < or > key.

Press the **QUICK CHECK** *key from any menu to instantly return to the display mode of the QC-3265.*

Pressing any key while ***BUSY*** *is displayed will abort the calibration step and the display will return to the previous display. In noisy environments it may be necessary to widen the motion window temporarily for calibration.*

3. With the scale empty, press the **v** key. . .

The unit says ***BUSY*** briefly while a stable zero value is obtained, then ***d 0.000*** is an example of what is displayed. The ***d*** is to remind you that the unit is still in calibration. The display is functional so weight change can be checked.

4. Press the **^** or **v** key and ***ZERO*** is displayed.

5. Press the **>** key to move to the next calibration parameter.

SPAN

SPAN is the next calibration parameter. Use this menu to set the scale's span with a test weight.

The number displayed in step 1 depends on the unit of measure and the capacity and division size selected. You may change unit of measure by using the **<** *key.*

1. With ***SPAN*** displayed, press the **v** key. . .

As an example, **A 6.000** is displayed. **A 6.000** means apply a 6 pound weight on the scale. Alternate span weights are available for the various capacities by pressing the **>** key.

See Figure 7 for a list of capacities and alternates weights.

2. With the span weight you want to use displayed, place that test weight on the scale and press the **v** key. . .

BUSY is displayed briefly then ***d 6.000*** (as an example of what is displayed). The ***d*** is to remind you that the unit is still in calibration. The display is functional.

Pressing any key while **BUSY** *is displayed will abort the calibration step and the display will return to the previous display.*

3. Press the **^** or **v** key and ***SPAN*** is displayed. . .

Your unit is now calibrated.

4. Press the **>** key to move to the next item.

^ = *up arrow key*

v = *down arrow key*

< = *left arrow key*

> = *right arrow key*

DISP.

DISP. is next. Use this menu to observe the scale's performance without returning to the weight display mode.

1. With ***DISP.*** displayed, press the **v** key. . .

   As an example, ***d 6.000*** is displayed. The actual value displayed depends on the unit of measure, the division size, the calibration and the applied weight. The ***d*** is displayed to make it clear this is not the weight display mode. The weight displayed will change as the scale weight changes but the zero function is disabled. The **UNITS** key functions during this display.

2. Press the **^** key or **v** key to return to the ***DISP.*** display. This is the last menu in the calibration section. Press the **^** key to return to the ***CAL.*** display. Press **>** key to move to the next item in the Scale menu shown in Figure 5.

UNITS

UNITS is next in the Scale menu in Figure 5. Use this menu to decide which units of measure are available in the weight display mode.

Press the **QUICK CHECK** *key from any menu to instantly return to the display mode of the QC-3265.*

1. With ***UNITS*** displayed, press the **v** key. . .

   POUNDS is displayed.

2. Press the **v** key to access this option or press the **>** key to view the next unit of measure.

3. When the unit of measure you want is displayed, press the **v** key to view whether or not that unit of measure is enabled. (***YES*** or ***NO***). Press the **>** key to change the status. When the correct status is displayed, press the **v** key. . .

   The display shows the unit of measure name.

4. Repeat step 3 for all the units, then press the **^** key to return to the ***UNITS*** display. Press the **>** key to move to the next parameter.

ZERO

ZERO is next. Use this menu to set two zero related options - ***RANGE*** and ***START***.

1. With ***ZERO*** displayed, press the **v** key. . .

   RANGE is displayed. This lets you choose from a list of percentages for zero range. See the list in Figure 5.

2. With ***RANGE*** displayed, press the **v** key. . .

   The current percentage of capacity that may be zeroed is displayed.

3. Press the **>** key until the percentage you want is displayed, then press the **v** key to accept it. . .

   RANGE is displayed.

4. Press the **>** key to view the next parameter.

START

START is the next parameter. This parameter determines how the QC-3265 behaves when it is switched on. Use this parameter to determine whether or not the QC-3265 must reach a stable reading within the above range before it will exit the start-up sequence, automatically zero the scale and begin weighing.

1. With ***START*** displayed, press the **v** key. . .

   YES or ***NO*** is displayed. Choose ***YES*** to enable this feature and ***NO*** if the feature is to be disabled.

2. Press the **v** key when your choice is displayed. . .

   START is displayed.

3. Press the **^** key. . .

   ZERO is displayed.

4. Press the **>** key to access the next menu.

If you want to exit a value display without changing the current setting, press the ^ key. It returns you to the higher menu level without changing the current selection.

STABLE

STABLE is next. Use this menu to set the motion window size.

1. With ***STABLE*** displayed, press the **v** key. . .

   The current motion window size is displayed. For example, if ***1 d*** is displayed, this means the motion window is set at ±1 division.

Press the **QUICK CHECK** *key from any menu to instantly return to the display mode of the QC-3265.*

2. Use the **>** key to scroll through the choices and press the **v** key when the desired choice is displayed. . .

   That value is selected and ***STABLE*** is displayed.

3. Press the **>** key to advance to the next parameter.

A.Z.T.

A.Z.T. is next. Use this menu to determine the range within which Automatic Zero Tracking will function.

1. With ***A.Z.T.*** displayed, press the **v** key. . .

   The current AZT range is displayed. For example, if ***1 d*** is displayed, this means that AZT will function when the displayed weight is within ±1 division of zero.

If you want to exit a value display without changing the current setting, press the ^ key. It returns you to the higher menu level without changing the current selection.

2. Use the **>** key to scroll through the choices and press the **v** key when the desired choice is displayed. . .

   That value is selected and ***A.Z.T.*** is displayed.

3. Press the **>** key to advance to the next item.

UPDATE

UPDATE is next. Use this menu to determine the display update rate of the QC-3265.

1. With ***UPDATE*** displayed, press the **v** key. . .

   The current update rate is displayed. For example ***10 HZ*** means the unit is updating ten times per second.

2. Use the **>** key to scroll through the choices and press the **v** key when the desired choice is displayed. . .

   That value is selected and ***UPDATE*** is displayed.

3. Press the **>** key to advance to the next item.

AVE.

AVE. is next. Use this menu to determine how many display update intervals are included in the weight average. Increasing this average provides more stability at the expense of slower response to changes. Decreasing this value speeds up the scale display but decreases the stability of the reading.

1. With ***AVE.*** displayed, press the **v** key. . .

   The current interval is displayed. For example ***5*** means the unit is averaging the weight seen over five update intervals.

2. Use the **>** key to scroll through the choices and press the **v** key when the desired choice is displayed. . .

   That value is selected and ***AVE.*** is displayed. This is the last parameter in the Scale menu.

3. Press the **^** key to return to the Setup menu in Figure 4. . .

   SCALE is displayed.

OVER and *UNDER*

OVER and ***UNDER*** are the next items if your unit is so configured. See ***OVER*** and ***UNDER*** in the *User Menu* section of this manual.

OPTION

OPTION is next. Use this menu to define whether the **TARGET** key is enabled or disabled and whether over and under tolerances are offered in the User or Setup menu.

If you disable the **TARGET** *key the following things occur:*

- ***TARGET*** *will be the only menu item under* ***OPTION***. ***TOL*** *will not be offered.*
- ***OVER*** *and* ***UNDER*** *will not appear in the user or setup menus.*

1. With ***OPTION*** displayed, press the **v** key. . .	***TARGET*** is displayed.
2. Press the **v** key. . .	***YES*** or ***NO*** is displayed. Choose ***YES*** if you want the **TARGET** key enabled. Choose ***NO*** if you don't. If you choose no, read the note in the left margin.
3. Use the **>** key to toggle between the choices. Press the **v** key when the choice you want is displayed. . .	***TARGET*** is displayed.
4. Press the **>** key. . .	***TOL.*** is displayed.
5. Press the **v** key. . .	***SETUP*** or ***USER*** is displayed.
6. Use the **>** key to toggle between the choices. Press the **v** key when the choice you want is displayed. . .	***TOL.*** is displayed. The over and under tolerances will be available under the menu you chose; Setup (Figure 4) or User (Figure 2).
7. Press the **^** key to return to the ***OPTION*** parameter.	
8. Press the **>** key to see the next setup menu item.	

SERIAL

SERIAL is the next parameter. The QC-3265 has optional RS-232 or RS-485 communication capabilities. See the exploded drawing in the back of this manual to see how this optional board is installed and wired. Figure 8 shows the serial menu. Below are the explanations for the items in this menu.

1. With ***SERIAL*** displayed in the setup menu, press the **v** key. . . — ***BOARD*** is displayed. This refers to the type of communication board installed in the unit.
2. Press the **v** key. . . — ***RS-232*** or ***RS-485*** is displayed.
3. Use the **>** key to toggle between the choices. Press the **v** key to accept the displayed selection. . . — ***BOARD*** is displayed.

Press the **>** key to move to the next item. Using the same techniques, continue through the menu in Figure 8. Below are the explanations of each menu item and the selections for each.

BUSY

The READY/BUSY hardware handshake requires additional wires in your serial interface cable.

This is offered only if RS-232 is selected.

Choices:

NO - disables the ready/busy input.

YES - suspends data transmission whenever ready/busy input indicates a busy condition.

Bidirectional communication and use of the enquire code are always available. You can also use Auto. or Broad. or neither. Automatic and Broadcast are mutually exclusive.

The QC-3265 will only respond to upper case command letters.

Valid weight only when bit 0 = 0 and bit 1 = 0.

PRINT

This determines what will cause data to be transmitted.

Choices:

BIDIR.- specifies bidirectional RS-232 communication. Sends a predetermined format shown below.

Command	Response
W<cr>	<lf>MNNNNNNbUU<cr>XX<etx>
S<cr>	<lf>SXX<cr><etx>
Z<cr>	Zero scale*, nothing transmitted in response

* weight must be stable, valid and within zero range. ***0 busy*** will be displayed while unit waits for this to occur. Error messages and keypad functions can override this display.

<cr> = carriage return	<lf> = line feed
<etx> = end of text character	M = space or negative sign
NNNNNN = 6 character weight	UU = unit of measure
XX = two character field representing scale status (see below)	

Scale Status

The high order nibble of each byte is a HEX 3. The low order nibble of the first and second bytes are:

First Byte

Bit 0 - Logic 1 = motion detected
- Logic 0 = weight stable

Bit 1 - Logic 1= indicator at center of zero
- Logic 0 = indicator not at center of zero

Bit 2 - Not used; Always set to Logic 0

Bit 3 - Not used; Always set to Logic 0

Second Byte

Bit 0 - Logic 1= underrange condition*
- Logic 0= not underranged

Bit 1 - Logic 1= overrange condition*
- Logic 0= not overranged

Bit 2 - Not used; Always set to Logic 0

Bit 3 - Not used; Always set to Logic 0

* The QC-3265 transmits the actual value, clipped to all nines if necessary, for NNNNNN while there is an underrange condition. Also, all nines and overrange status are transmitted whenever there is a ***Lock Up*** or ***L.C. Error*** condition.

AUTO.- specifies automatic transmission of the configured layout each time motion ceases after a minimum of a 30 division weight change. If motion detection is turned off, a ±5 division window is used for auto print motion detection. Any triggers that occur during data transmission are ignored. When a print trigger occurs the display will briefly show **SEND.**

BROAD. - specifies that data is to be broadcast at the display update rate.

If your system is a sealed or legal for trade system, and your printer can transmit an enquire code to the indicator, mismatch the enquire code normally recognized by the indicator so invalid weights (from motion, lockup, overrange, etc.) will not be printed.

ENQ.

ENQ. stands for enquire. Set the character you want to use as an enquire character. When this character is received by the QC-3265 it will respond by sending the configured print layout.

Default value is 005. Use the < and > keys to decrease or increase the value between 0 and 255.

BAUD

BAUD is next. Choose from the following baud rates:

300, 600, 1200, 2400, 4800, 9600

There are some combinations of data, parity and stops that are not supported by the UART. These are 7N1, 8E2, 802, 8C2, 8S2. 7N2, 8E1, 801, 8C1, and 8S1 respectively will be substituted.

If an unsupported combination is chosen the display will flash.

DATA

DATA is next. Choose from 7 or 8 data bits.

PARITY

PARITY is next. Your choices are listed below:

NO	Specifies that no parity bit is to be included.
EVEN	Specifies that a parity bit is transmitted such that an even number of logic one bits are transmitted between the start and stop bits.
ODD	Specifies that a parity bit is transmitted such that an odd number of logic one bits are transmitted between the start and stop bits.
CLEAR	Specifies that a logic zero bit is always to be transmitted after the data bits. (Space parity)
SET	Specifies that a logic one bit is always to be transmitted after the data bits. (Mark parity)

STOPS

STOPS is next. This determines the number of stop bits. Choose 1 or 2.

LAYOUT

LAYOUT is next. Figure 9 (repeated below) shows the layout menu. This is where you are able to design the printout which will be transmitted for ***Auto.***, ***Broad.***, and ***Enq.***

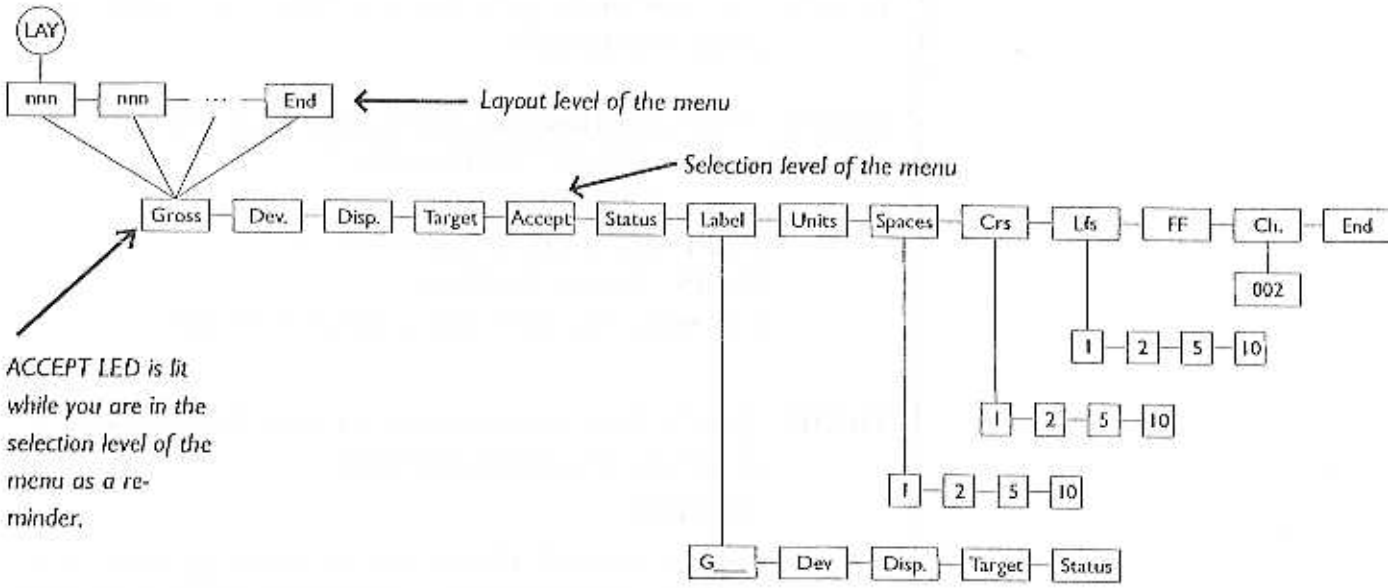
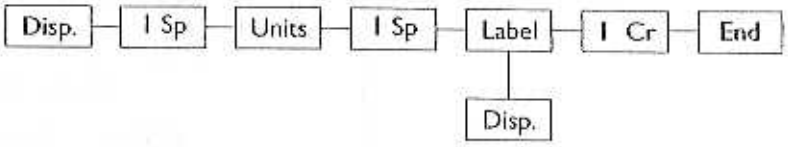


Figure 9
Layout Menu

Press the **v** key and view the layout level of the menu. This is the information that will be transmitted. What you see depends on how your unit is already configured.

In Figure 9, the displayed information is represented by the variable ***nnn***. The default layout is shown below. Scroll through this list by using the **>** key.



The layout is made up of the choices you see in the selection level of the menu in Figure 9 (***Gross***, ***Dev.***, ***Disp.***, etc.). With the desired selection displayed, press the **v** key to select it and the display will return to the layout display.

Up to 30 items may be in the layout. ***END*** terminates the output format. Any items after ***END*** are no longer viewed or transmitted. Below are explanations of the selection menu items.

GROSS This specifies that the current weight is to be transmitted. The data is right justified in a 7 character string with leading zero suppression. Output strings similar to those displayed are transmitted in place of the weight data whenever there is an error.

DEV. Specifies that the deviation amount is to be transmitted. If there is no active target weight, spaces are transmitted instead. Uses the same formatting as ***GROSS.***

DISP. Specifies that either gross or deviation is to be transmitted depending on the current display mode.

TARGET Specifies that the current target weight is to be transmitted. Same formatting as for ***DEV.***

ACCEPT Specifies that a four character string is to be transmitted corresponding to the OVER/ACCEPT/UNDER LEDs.

OVER when OVER LED is lit
ACPT when ACCEPT LED is lit
UNDR when UNDER LED is lit
Four spaces when there is not an active target weight

STATUS Specifies that the current status is to be transmitted as a single character. The bits appear as follows:

0011LEBM

L = logic 1 when a low battery condition exists, logic 0 otherwise
E = logic 1 when and A-D Error condition exists, logic 0 otherwise
B = logic 1 when weight is over or under range, logic 0 otherwise
M = logic 1 when in motion, logic 0 when stable

The upper four bits are set to 0011 to cause the value to be printed as a digit or symbol in row 3 of the ASCII character set.

LABEL Allows you to choose a label to be transmitted along with the weight value. Your choices are as follows:

G__ - Specifies that a **G** (gross) is transmitted.

DEV - Specifies that ***DEV*** (deviation) is transmitted.

DISP. - Specifies ***G*** or ***DEV*** is transmitted depending on the current display mode.

TARGET - Specifies that ***TARGET*** is transmitted.

STATUS - Specifies that ***STATUS*** is transmitted.

UNITS Specifies that the current unit of measure label is to be transmitted as ***lb***, ***kg***, ***oz*** or ***g_***. (Always two characters so g is followed by a space.)

SPACES Displayed at the layout level as ***n SPS***, where ***n*** can be 1, 2, 5, or 10 spaces to be transmitted.

CRS Displayed at layout level as ***n CRS***, where ***n*** can be 1, 2, 5, or 10 carriage returns to be transmitted.

LFS Displayed at layout level as ***n LFS***, where ***n*** can be 1, 2, 5, or 10 line feeds to be transmitted.

FF Specifies that a form feed control character is to be transmitted.

CH. Displayed at layout level as ***CH. nnn*** where ***nnn*** can be selected as any value between 000 and 255. Specifies that the ASCII character selected be transmitted. This is intended to support sending control characters required for remote displays or simple printer operations. Press the **v** key and use the **<** and **>** keys to increase or decrease the value. Press the **v** key when the value you want is displayed. Display returns to ***CH. nnn***.

END Specifies the end of the layout. Does not cause anything to be transmitted.

VOLTS

Volts available only in the LCD display version.

VOLTS is the next item in the setup menu. This allows you to determine whether the unit is battery powered or not.

Choices:

A.C. - Specifies the unit is not battery powered. This causes ***OFF*** not to be offered in the user menu and ***IDLE*** not to be offered in the setup menu.

BAT. - Specifies that the unit is battery powered. Enables ***OFF*** and ***IDLE*** to appear in their respective menus.

IDLE

Idle available only in the LCD display version.

IDLE is the next item in the setup menu. Allows you to choose a length of time for the unit to be idle (no motion or key presses) before it turns itself off. This item offered only in the setup menu only if enabled under ***VOLTS***. Choose from the following choices:

OFF - disables auto shutoff
5 - five minute idle time
10 - ten minute idle time
15 - fifteen minute idle time
20 - twenty minute idle time
25 - twenty-five minute idle time
30 - thirty minute idle time

SEAL

SEAL is next. Items in the setup menu (Figure 4) can be protected from unrecorded changes. The level of protection is set in the ***SEAL*** menu.

Two internal counters record changes to items in the setup menu. View these counters under ***AUDIT*** in the test menu (Figure 3). These counters cannot be reset and thus can be used by auditors or inspectors to check if changes have been made. One counter is for scale calibration items and the other for configuration items. Table 1 shows the lists counted as calibration and configuration items.

Calibration	Configuration
Calibration Zero	**Capacity**
	Units
Calibration Span	**Zero Range**
	Zero Start
	Stable
	AZT
	Update
	Ave.
	Seal
	ENQ
	Layout
	Target
	Tolerance
	Volts
	Idle
	Board
	Busy
	Print
	Baud
	Data
	Parity
	Stops

Table 1
Counter lists

ALL & PHYS.

The two parameters in the ***SEAL*** menu are ***ALL*** and ***PHYS***. Below are explanations of these settings and their consequences.

ALL set to *YES*

Any time you access the setup menu and change any item in Table 1, the appropriate counter increments one count. Changing multiple items on one visit to the menu increments the counter only one count. It's the number of visits with changes that are counted, not the number of changes per visit.

ALL set to *NO*

With this setting the calibration internal counter will increment when you access the setup menu and change either calibration item in Table 1. The internal configuration counter will increment only if you change one of the configuration items in **bold** print from Table 1.

PHYS set to *YES*

If ***PHYS.*** is set to ***YES***, you must remove the physical seal (rear sealing plug) of the QC-3265 to access an internal switch. When you press this switch you have full editing privileges and the display shows the first item in the setup menu, ***SCALE***, without the need to enter the password.

If you enter the setup menu using the password and not the internal switch, you can change only the configuration items in Table 1 that are in normal, not **bold**, print..

*If **PHYS.** is set to **NO**, you can still press the internal switch and have instant setup menu access and editing privileges.*

PHYS set to *NO*

If ***PHYS.*** is set to ***NO***, correct password entry is the only way to have editing privileges of all the items in Table 1 without breaking the physical seal. See note to left.

If the password is not entered correctly, the setup menu items can be viewed but not edited.

Reset Menus

The reset menu (Figure 10) appears in two cases,

1. If you do a Master Clear (powering up the unit with both the **Quick Check** and **Zero** keys pressed).
2. If setup or calibration data becomes corrupted.

In case 1, you will need to enter the password the same way as explained in the Setup menu. After correctly entering, the menu ***RESET*** will be displayed.

1. With ***RESET*** displayed, press the **v** key. . . — ***Setup*** or ***Cal.*** will be displayed.
2. Press the **v** key. . . — ***NO*** is displayed. Choose ***YES**** to reset to default values or ***NO*** to leave the values as they are.

** If the unit is physically sealed, you must press the internal switch to select **YES**.*

3. Toggle between the choices with the **>** key. When the choice you * want is displayed, press the **v** key. . . — The display will show the other choice (***Setup*** or ***Cal.***).

4. Make your choice the same way as in step 3. . . — The unit goes through the power **up** sequence to weight display mode.

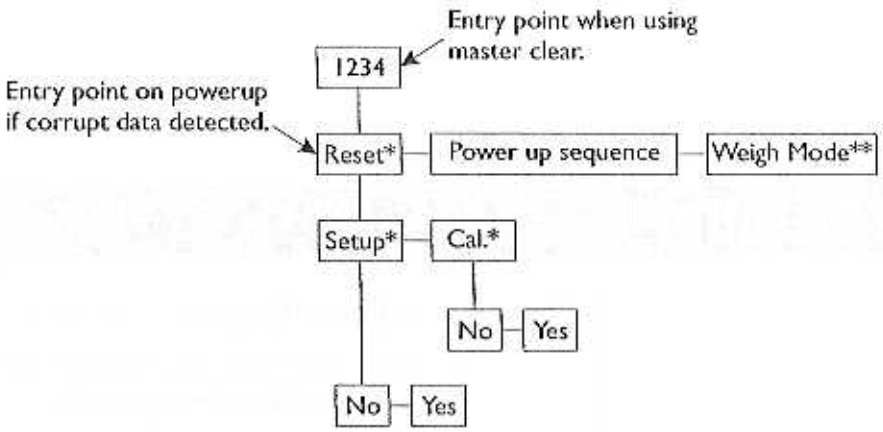
In case 2, the display bypasses the password and goes right to ***RESET.***

1. With ***RESET*** displayed, press the **v** key. . . — ***Setup*** or ***Cal.*** will be displayed. If data is corrupted the word on the display will flash.

If the SEAL PHYS. selection is corrupted, the unit assumes that the selection is YES.

2. Press the **v** key. . . — ***NO*** is displayed. Choose ***YES**** to reset the data. If you reset setup and calibration is already set to defaults, the unit will not display ***CAL.*** and will go to the weight display mode. If Cal. is not at defaults, you are given the opportunity to reset that as well. When you are done the unit goes back to weight display mode automatically.

** If the unit is physically sealed, you must press the internal switch to select **YES**.*



* not offered if all values are already set to default values.
Flashes if corrupt data detected - must be reset to operate scale

** not available until no corrupt data detected in setup and calibration.

Figure 10
Reset Menu

Error Displays

The following are displays you may see if problems occur or if invalid operations are attempted with your QC-3265:

Display	Description
------	Overrange weight.
------	Underrange weight.
------	Recovering from lock-up or out of range condition.
Loc' up	A-D converter is not functioning.
L.C. Err	A-D converter subjected to an input signal beyond ±6.66667 mV/V
Can't	The unit cannot perform a function. Displayed only while key is held down.
Flashing *	Corrupted data in the reset menus. See the *Service Manual*. (* = RESET, SETUP, or CAL)
Lo bat	A low input voltage is detected. This appears when voltage level reaches 10.5 volts and alternates with the normal display. The unit will shut itself off at 9.2 volts. Only available on battery powered units.
Flashing All segments	Low voltage on the LED version.
Sealed	Displayed while a key is pressed when attempting to modify a sealed selection without edit privileges.