

# **WEIGH-TRONIX**



## **Model 3275 Checkweigher User's Manual**

#### **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 present appareil numerique n'emet pas de bruits radioelectriques depassant les limites applicables aux appareils numeriques de la Class A prescrites dans le Reglement sur le brouillage radioelectrique que edicte par le ministere des Communications du Canada.



## **CAUTION**

**Risk of electrical shock. Do not remove cover. No user serviceable parts inside. Refer servicing to qualified service personnel.**

**Weigh-Tronix reserves the right to change specifications at any time.**

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**Pages are numbered consecutively beginning with the cover page.**

# Specifications\*

<b>DIMENSIONS:</b>	<u>Overall</u>	
	6 lb and 12 lb scales	8.85W x 13.25D x 17.21H
	30 lb, 60 lb, and 100 lb scales	13.69W x 16.50D x 17.21H
	100 lb scale	20W x 26.56D x 35H
	200 lb scale	24W x 30.56D x 35H
	<u>Scale Platter</u>	
	6 lb and 12 lb scales	8 x 8
	30 lb, 60 lb, and 100 lb scales	12 x 14
	100 lb scale	20 x 20
	200 lb scale	24 x 24
<b>CONSTRUCTION:</b>	All stainless steel sheet and hardware.	
<b>POWER REQUIREMENTS:</b>	117 VAC (+10%, -15), 50/60Hz (±3 Hz), .25 Amp. Max.	
<b>DISPLAY AND ANNUNCIATORS:</b>	Fluorescent four-color display, with annunciators for unit of measure (lb, kg, oz, and g), over, under, accept, center of zero, and net mode, as well as a 6 digit weight display with 1/2 inch high numerals.	
<b>CONTROL KEYS:</b>	10 membrane keys.	
<b>ENVIRONMENTAL LIMITS:</b>	Temperature: -10C to +40C (14F to 104F) Humidity: 10% to 95% relative, non-condensing	
<b>OPTIONS:</b>	Remote Keypad RS-232 and RS-485 Communications I/O 234 VAC, 50/60 Hz Power Setpoint I/O connections	

## CAPACITY & RESOLUTION

<u>Pounds</u>	<u>Ounces</u>	<u>Kilograms</u>	<u>Resolution</u>
6 lb x .001	100 oz x .02	3 kg x .0005	6000/5000/6000d
6 lb x .002	100 oz x .05	3 kg x .001	3000/2000/3000d
12 lb x .002	200 oz x .05	6 kg x .001	6000/4000/6000d
12 lb x .005	200 oz x .1	6 kg x .002	2400/2000/3000d
30 lb x .005	480 oz x .1	15 kg x .002	6000/4800/7500d
30 lb x .01	480 oz x .2	15 kg x .005	3000/2400/3000d
60 lb x .01	960 oz x .2	30 kg x .005	6000/4800/6000d
60 lb x .02	960 oz x .5	30 kg x .01	3000/1920/3000d
100 lb x .02	1600 oz x .5	45 kg x .01	5000/3200/4500d
100 lb x .05	1600 oz x 1	45 kg x .02	2000/1600/2250d
200 lb x .05	3200 oz x 1	90 kg x .02	4000/3200/4500d
200 lb x .1	3200 oz x 2	90 kg x .05	2000/1600/1800d

**\*WEIGH-TRONIX reserves the right to change specifications and features without notice and without incurring obligation.**

# Introduction

The Model 3275 Checkweigher is a reliable, easy to operate, high speed weighing scale, designed to allow entry of a target weight, along with selected over and under weight limits for the rapid processing of items that must be checked for conformity to a precise weight range. It may be used in stand-alone or interfaced applications. The Model 3275 incorporates advanced electronic design, including a graphic over/under display, optional handheld remote keypad and serial multi-scale communications. The scale is housed in a watertight enclosure to permit use in wet environments and can be washed down as necessary to meet sanitary requirements.

## Initial Inspection

This scale has been calibrated and inspected for mechanical and electronic integrity prior to shipment. It should be free of defects and in perfect operating condition upon receipt. To confirm this, the scale should be inspected immediately for any physical damage incurred in transit. If the scale is damaged, contact your local Weigh-Tronix supplier.

## Leveling the Scale

Place the scale on a stable, non-vibrating, level surface. Adjust the platform feet so that the platform is level and all four feet are in equal contact with the surface, then tighten the lock nut on each of the feet. Use the leveling bubble to make the proper adjustment.

## AC Electrical Requirements



### Warning

*Connecting the scale to an outlet without a safety ground, bypassing the safety ground, or in any other way disrupting the safety earth ground, could make the scale an electrical shock hazard, or could affect its operation.*

The scale requires a 117 VAC, 50/60 Hz power source, isolated from electrical noise inducing equipment such as motor starters, fluorescent lighting, etc. The scale is supplied with a UL standard 3-prong plug for AC operation and must be connected to an outlet which provides a third wire earth ground to insure proper operation and safety. The ground wire must be connected to the building safety (earth) ground and neutral bus at the main fuse box.

## Transmitting Serial Data (Requires Serial Option)

Print out of checkweighing transactions may be obtained by manual key actuation or by automatic transmission when the scale is stable and a positive net weight is present. Automatic transmission is selectable in the scale configuration menu.

### Manual Transmission Of Serial Data

When the scale is stable and displays a positive net weight, press the **PRINT** key to transmit data (weight display will flash).

### Automatic Transmission Of Serial Data

The scale initiates an automatic transmission when the scale is stable, a positive net weight is present and the scale has registered a minimum of 20 graduations of motion since the last print (weight display will flash).

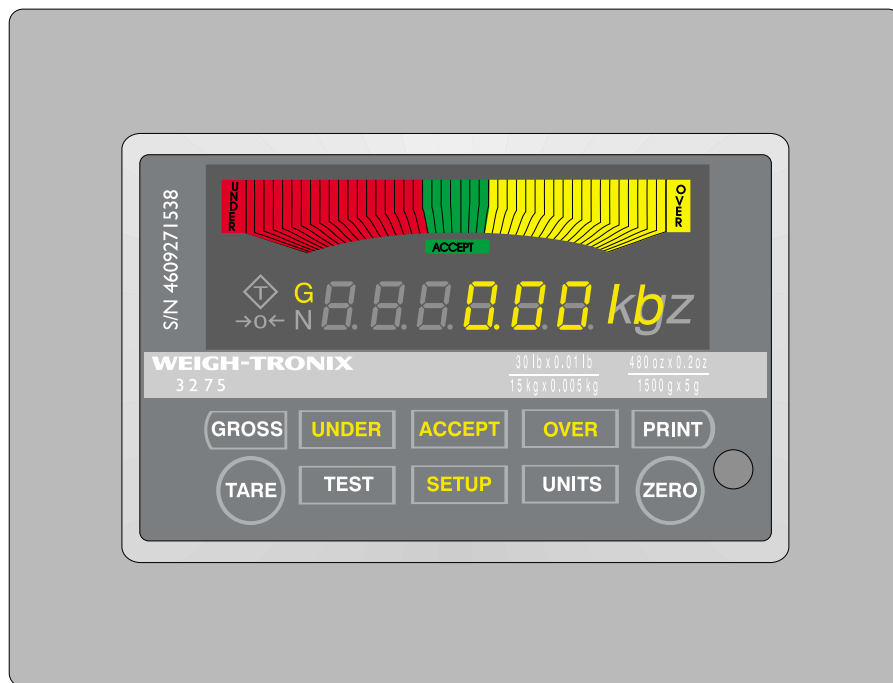
### Data Transmitted

The data transmitted when a print command is actuated is selected in the scale configuration menu. The choices of data sent are:

1. Displayed weight or displayed weight with status identification (over, accept, under)
2. Displayed weight with status identification and weight deviation from target weight.

## Operation with a Computer

Up to 32 Model 3275 checkweighers can be connected through their respective RS-485 I/O ports to an IBM PC/AT®\* or compatible computer which may be used as a controller for the scale(s). The controller continuously polls the connected scales and can handle 5 transactions per second.



**Figure 1**  
Front panel control keys and displays

\* IBM Personal Computer AT<sup>®</sup> is a registered trademark of International Business Machines Corporation.

## Display Features

The display and control keys are located in a stainless steel housing on top of a stainless steel column. See Figure 1. The housing can be tilted 20 degrees on its axis to allow the operator to select the best viewing angle.

The Over/Under/Accept display consists of 45 segments, 19 Over (Yellow), 19 Under (Red), and 7 Accept (Green), plus the legend block for each. In operation, only one segment and the legend illuminate for the Accept range. If the weight on the scale is in the Over or Under range, an increasing number of segments, radiating outward from the center, "illuminate" in proportion to the amount the weight is over or under target weight. The Over or Under legend also illuminates.

→○← The **Center-of-Zero** illuminates when the scale is within  $\pm\frac{1}{4}$  division of reference pushbutton zero.

The **N** illuminates to indicate that tare is in effect.

The Weight display consists of six 7-segment digits and accompanying decimals. The appropriate unit of measure for the displayed weight is illuminated to the right of the weight display.

## 3275 Control Keys

There are ten membrane type control keys on the face of the display housing.

<b>UNDER/OVER/ACCEPT</b>	Used as selection keys during operation.
<b>TEST</b>	Initiates the display test sequence.
<b>ZERO</b>	Zeros the scale, and returns scale to normal operation from any operator setup function.
<b>SETUP</b>	Places the scale in the setup mode.
<b>PRINT</b>	Initiates the transmission of serial data to a peripheral device.
<b>UNITS</b>	Used to select unit of measure for the weight displayed.
<b>TARE</b>	Enters a pushbutton tare value, and used to enter a numerical tare value.
<b>GROSS</b>	Displays gross weight when the scale is in net mode.

# Scale Operation

## Applying Power to the Scale

The 3275 has no on/off switch as it is best to have power supplied continuously. Simply plug the cord from the indicator into the nearest AC source.

When power is initially applied the following sequence occurs: the entire display will briefly light up; the scale model number will be displayed; the software revision number will be displayed; the calibration and configuration audit trail counters are displayed; the scale will cycle through a display test and countdown from 999999 to 000000.

## Entering or Changing a Target Weight Using Product

Entering a target weight using product will illuminate the center accept segment when the target weight on the platform is equal to the target value entered. The tolerance at which the over or under graphic display will illuminate is set at  $\pm$  one increment. Each of the remaining nineteen graphic segments within the over or under display will light consecutively, each representing an additional increment beyond the target value.

1. Place the product on the scale.
2. Press the **SETUP** key. . . The display shows "**SEtuP**"
3. Press **SETUP** key again. . . The display shows "**SAVEd**" and the scale returns to normal operation with the ACCEPT annunciator illuminated.

## Setting or Changing a Target Weight by Entering a Numerical Value

Setting a target weight by entering a numerical value will illuminate the center accept segment when the target weight on the platform is equal to the target value entered. The tolerance at which the over or under graphic display will illuminate is set at  $\pm$  one increment. Each of the remaining nineteen graphic segments within the over or under display will light consecutively each representing an additional increment beyond the target value.

1. Press the **SETUP** key. . . The display shows "**SEtuP**".
2. Press the **ACCEPT** key. . . The ACCEPT annunciator flashes and the display shows the current target weight.



3. To increase the target weight, press **OVER**. To decrease the target weight press **UNDER**.  
(The target weight value begins to change at a rate of 2 graduations per second, then begins increasing speed. If the key is released and pressed again, the rate of change returns to 2 graduations *per second*.)
4. With the desired target weight displayed, press **ACCEPT**. . .

The display shows "**SAVED**" and the scale returns to normal operation.

## Entering or Changing a Pushbutton Tare Value

*Tare is not retained if power is lost.*

The TARE key can be used to store the displayed weight into the tare memory of the indicator.

1. Place container (or equal weight) to be tared on the scale.
2. Press the **TARE** key.

The display shows zero weight, and the NET and TARE annunciators illuminate.

## Entering or Changing a Numerical Tare Value

A known numerical tare value can be programmed into the tare memory of the indicator.

1. Press the **SETUP** key.
2. Press the **TARE** key.
3. To increase the tare value, press **OVER**. To decrease the tare value, press **UNDER**. The tare value begins to change at a rate of 2 graduations per second, then begins increasing speed. If the key is released and pressed again, the rate of change returns to 2 graduations per second.

The display shows "**SEtuP**".

The TARE annunciator flashes and the display shows the current tare value.

4. With the desired tare value displayed, press the **ACCEPT** key.

The display shows "**SAVed**". The tare, net and center of zero annunciators illuminate and the display shows tare value and the scale is ready for operation.

## Entering or Changing an Over Tolerance

*You cannot enter negative values for tolerances.*

Entering an over tolerance value will determine when the first over segment of the over graphic display region will light. Each of the remaining graphic segments within the over display region will light consecutively representing each additional increment beyond the target value.

To the right of the center accept segment are three additional green segments. These segments will now alternately light to represent equal thirds of the weight value between the target weight and the entered over value.

1. Press the **SETUP** key.
2. Press the **OVER** key.
3. To increase over tolerance, press **OVER**. To decrease over tolerance, press **UNDER**. The tolerance value begins to change at a rate of two graduations per second, then begins increasing speed. If the key is released and pressed again, the rate of change returns to two graduations per second.
4. With the desired over tolerance value displayed, press **ACCEPT**. . .

The display shows "**SEtuP**".

The over annunciator flashes and the display shows the existing over tolerance value.

The display shows "**SAVed**" and the scale returns to normal operation.

## Entering or Changing an Under Tolerance

Entering an under tolerance value will determine when the first under segment of the under graphic display region will light. Each of the remaining graphic segments within the under display region will light consecutively representing each additional increment below the target value.

To the left of the center accept segment are three additional green segments. These segments will now alternately light to represent equal thirds of the weight value between the target weight and the entered under value.

1. Press the **SETUP** key.
2. Press the **UNDER** key.

The display shows "**SEtuP**".

The under annunciator flashes and the display shows the existing under tolerance value.

3. To increase under tolerance, press **OVER**. To decrease under tolerance, press **UNDER**. The tolerance value begins to change at a rate of two graduations per second, then begins increasing speed. If the key is released and pressed again, the rate of change returns to two graduations per second.
4. With the desired under tolerance value displayed, press **ACCEPT**. . .

The display shows "**SAVEd**" and the scale returns to normal operation.

## Reviewing an Entered Tare, Over, Under or Target Value

Reviewing an entered target value can be performed anytime the indicator is in the normal operating mode.

1. Press the **SETUP** key. . .
2. Press the **TARE, OVER, UNDER** or **ACCEPT** key. . .
3. Press **ACCEPT**. . .

The display shows "**SEtuP**".

The weight display shows the current value entered, and the appropriate annunciator flashes.

The display shows "**SAVEd**" and the scale returns to normal operation.

## Clearing Over, Under, Accept and Tare Values

Performing this routine will simultaneously clear all values entered.

1. Ensure the scale platform is empty, with the **CENTER OF ZERO** annunciator illuminated.
2. Press the **SETUP** key.
3. Press the **SETUP** key again.
4. Press the **ACCEPT** key.

The display shows "**SEtuP**".

The display shows "**CLEAR?**".

All items are cleared and the scale momentarily displays "**buSY**" then "**SAVEd**" before returning to normal operation.

# Viewing and/or Resetting the Transaction Counter

The 3275 has a transaction counter which records the number of weighments or transactions performed by your 3275. A transaction occurs only when a target weight is active. Refer to the service manual for setting a threshold level for the target weight. The threshold is adjustable from 0-50% of target weight.

1. To view the transaction counter value, press the **SETUP** key, then the **TEST** key. . .

*tc xxx* is briefly displayed, then **CLEAR?** is displayed. The *tc* stands for transaction counter and *x* represents the current value. **CLEAR?** means the scale is asking if you want to save the value or not. You can retain this value and continue with normal operation (Step 2), or reset the value to zero and return to normal operation (Step 3).

2. To retain the current transaction counter value and return to normal operation, press the **ZERO** key. . .

3275 returns to normal operation mode.

3. To reset the transaction counter to zero and return to normal operation, press the **ACCEPT** key. . .

the counter value is reset to zero and the scale returns to normal operation.

## Remote Keypad (Optional)

The remote handheld keypad (refer to Figure 2) has 20 membrane keys used to enter target weight, over and under limits, over and under alarms, and tare values. These values are transmitted to the scale by pointing the keypad toward the display housing. The remote keypad has a transmission range of approximately 5 feet. The function of the keys on the keypad are as follows:

0 - 9	Used to enter numeric values.
.	Used to enter a decimal point.
EXIT	Used to exit the scale configuration mode.
ALT	Used to have the scale interpret the next key pressed as an alternate function.
TARE	Used to enter the value displayed as tare.
OVER ALARM	Used to enter the weight at which the OVER annunciator begins to flash.
OVER	Used to enter the displayed weight as the OVER tolerance.
ACPT	Used to enter the target weight.
UNDR	Used to enter the displayed weight as the UNDER tolerance.
UNDR ALARM	Used to enter the weight at which the UNDER display begins to flash.
CLR	Used to clear an entry on the display.



**Figure 2**  
Optional handheld remote keypad

## Entering or Changing Over, Under, Accept, Tare or Over and Under Alarm Values Using the Optional Remote Keypad

The remote keypad allows the operator to send values to the indicator representing tare, over, accept, under, over alarm and under alarm values.

Two new modes of operation are now selectable that are not available without this keypad. They are the ability to enter over and under alarm values. When an over or under alarm value is programmed, the value entered determines when the OVER or UNDER graph will flash. The individual graphic display segments for the over or under regions will each represent 1/20th of the programmed alarm value or one display count whichever is greater.

1. Press **SETUP** on the Model 3275. (If the **SETUP** key has been disabled in the configuration of the scale, input from the remote keypad must begin within 5 seconds or the Setup Mode is automatically exited.) . . .

The display shows "**SEtuP**".

2. Point the remote keypad at the Model 3275 display housing and enter the numeric information to be sent to the scale. . .

The display shows the numbers as they are entered.

3. Press the key on the remote keypad that defines the meaning of the value entered. . .

The scale flashes "**SAVEd**" to acknowledge receipt and acceptance of the information, then displays "**SEtuP**".

4. Repeat steps 2 and 3 until all data has been entered.

5. Press the EXIT key on the remote keypad to return the scale to normal operation.

## Reviewing Entered Values Using the Remote Keypad

All weight values entered can be recalled for viewing.

1. Press **SETUP** on the Model 3275. . .

The display shows "**SEtuP**".

2. Point the remote keypad at the scale display housing and press the key on the remote keypad corresponding to the setup value to be recalled. . .

The display shows the recalled value for three seconds.

3. After all desired values have been reviewed, press the **EXIT** key on the remote keypad to return the scale to normal operation.

## Clearing Over, Under, Accept, Tare, Over Alarm and Under Alarm Values Simultaneously Using the Remote Keypad

Performing this routine will simultaneously clear all values entered.

1. Press **SETUP** on the Model 3275. (If the **SETUP** key has been disabled in the configuration of the scale, input from the remote keypad must begin within 5 seconds or the Setup Mode is automatically exited.) . . .

The display shows "**SEtuP**".

2. Press **ALT** on the remote keypad. . .

The display shows "**ALt**".

3. Press **CLR** on the remote keypad. . .

The display shows "**SAVEd**" and then "**SEtuP**".

4. Press the **EXIT** key on the remote keypad to return the scale to normal operation.

# Optional Communications

## RS-232

RS-232 is programmable to communicate with a printer or a computer.

Output Format Without Target Values Entered  
 ddddddouuotttooooo (CR)

Output Format With Target Values Entered (Display Net)  
 ddddddouuotttosssso (CR)

Output Format With Target Values Entered (Display Deviation)  
 ddddddouuotttosssottodddddd (CR)

d = weight data with polarity and decimal point

o = space

u = unit of measure, (lb, oz, kg, gm)

t = weight type (Net = net weight, Spaces = gross weight, DEV = deviation)

s = check weigh status (Over, Undr, Acpt)

(CR) = carriage return

When “**bi232**” is selected from the RS232 setup parameter, a computer command will result in an indicator response.

RS-232 BIDIRECTIONAL PROTOCOL		
<u>Computer Command</u>	<u>Request</u>	<u>Scale Transmission</u>
W (CR)	Send Weight And Scale Status Data	(LF)XXX.XLB(CR) (LF)hh(STATUS)(ETX)
S(CR)	Send Scale Status In Two ASCII Digits	(LF)hh(STATUS)(CR)
Z(CR)	Zeros Scale	
All Else	Unknown	(LF)?(CR)
(CR) = ASCII carriage return		
(LF) = ASCII line feed		



## RS-232 With Ability to Download Target Values

For this option refer to the PC to 3275 RS-485 Communication Program.

## RS-485

*Further information on protocol is available from the factory.*

RS-485 option requires appropriate software and hardware in a dedicated IBM PC/AT®.

See the output formats and definitions under the RS-232 section on the previous page.

## Scale Status Definition

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 - High = motion detected  
- Low = weight stable
- Bit 1 - High = indicator zeroed  
- Low = indicator not zeroed
- Bit 2 - Not used
- Bit 3 - Not used

### Second Byte

- Bit 0 - High = weight too low  
- Low = valid weight
- Bit 1 - High = over capacity  
- Low = not over capacity
- Bit 2 - Not used
- Bit 3 - High = faulty calibration data  
- Low = valid calibration data

# Software Options

The 3275 Checkweigher can be modified with optional software. If you do not have any of these options installed on your 3275 you may disregard the last portion of this manual.

If you have one of these software options, follow the directions for your particular option. The optional programs available are:

- Multiple Setup
- Multiple Setup with Manual Recall
- Standard Deviation
- X-Bar R
- LB-OZ
- Percent

Each of these programs is explained on the following pages. Some of these programs require additional hardware. Consult the instructions that come with each program or the *3275 Service Manual*.

## Multiple Setup Program

This program can only be operated if the Multiple Setup Option is installed and if you use the optional Remote Keypad.

The Multiple Set Up option allows you to enter and store six weight parameters in up to ninety-nine different memory channels. You may recall any memory channel and its stored weight parameters by entering a two digit channel number on the remote keypad thus adding supervisor security to the settings.

This program will extend power up initialization time to approximately 60 seconds. During initialization, the display will be blank until it is finished. Current parameter settings are automatically restored following a power loss and subsequent power up.

The parameters that can be programmed and saved are

- Target Weight
- Tare Value
- Over Tolerance Value
- Under Tolerance Value
- Over Alarm Value
- Under Alarm Value

### Operation

The Setup currently installed can be identified at any time by pressing **TEST**. The channel number will be displayed temporarily as "**SEt xx**". If no Setup is in use, the display will show "**SEt 0**".

If an invalid Setup channel number (1-99 are acceptable) is entered, the scale will display "**Error**" momentarily then return to the last setup.

#### To save Setup values:

1. Set target weight, tare, and tolerance values as explained on pages 4-6 of this manual.
2. Press **ALT** and decimal (.) on the remote keypad. . .

The display shows "**Alt.**".

- |  |   |
|--|---|
| 3. Press the decimal (.) on the remote keypad. . .   | The display shows " <b>SAV</b> _ _".  |
| 4. Enter desired channel number ( <b>1-99</b> ).   |   |
| 5. Press <b>ACPT</b> on the remote keypad. . .   | The display shows " <b>SurE?</b> ".   |
| 6. Press <b>ACPT</b> . . .   | The display shows " <b>buSY</b> " momentarily, then shows " <b>SEtuP</b> ". |
| 7. Repeat the above steps to program another Setup <b>or</b> press <b>EXIT</b> on the remote keypad to return to normal operation. |   |

### Recalling a Setup

*Due to limitations in program memory, the only diagnostic features remaining are ROM test ("**rotESt**") and Initialization ("**init**"). If more extensive diagnostics are required, install a standard program.*

- |  |  |
|--|--|
| 1. Ensure the scale is at zero. . .            | →○← indicator is lit. If the scale is not at zero when recalling a setup, the display will show "ZEro" momentarily and return to normal operation. |
| 2. Press <b>ALT</b> on the remote keypad. . .  | The display will show " <b>Alt</b> ", or " <b>ZEro</b> " if scale is not zeroed, then returns to normal operation.                                 |
| 3. Enter the channel number desired. . .       | The display shows " <b>rEC xx</b> " ( <b>xx</b> = 1-99)  |
| 4. Press <b>ACPT</b> on the remote keypad. . . | The display will return to normal operation with the pre-programmed parameters installed.  |

### Multiple Setup with Manual Recall Program

*Setup values you can enter with the remote keypad are*

- Target weight
- Over tolerance
- Under tolerance
- Tare
- Over tolerance alarm
- Under tolerance alarm

The Multiple Setup with Manual Recall program is similar to the Multiple Setup program. One difference is that you must enter your setup values with the remote keypad (see the directions for this in the *Remote Keypad* section of this manual). The other difference is that you can recall a setup through the front panel and the remote keypad.

- |   |                                      |
|---|--------------------------------------|
| 1. Enter your setup values with the remote keypad.            |                                      |
| 2. Press <b>ALT</b> and decimal (.) on the remote keypad. . . | The display shows " <b>Alt</b> ".    |
| 3. Press the decimal (.) on the remote keypad. . .            | The display shows " <b>SAV</b> _ _". |

*Due to limitations in program memory, the only diagnostic features remaining are ROM test ("rotEst") and Initialization ("init"). If more extensive diagnostics are required, install a standard program.*

4. Enter desired channel number (1-99).
5. Press **ACPT** on the remote keypad. . .
6. Press **ACPT**. . .

The display shows "**SurE?**".

The display returns to normal operation with the new setup values in effect.


### Recalling a Setup Using the Front Panel

To recall a setup through the front panel follow these steps:

1. Press the **SETUP** key twice. . . the display will show "**rEC xx**". (xx = 1-99)
2. Press and hold the **OVER** or **UNDER** keys to scroll up or down through the memory channel numbers. While holding a key down, the displayed numbers start out changing one increment at a time but the longer you hold the key down the faster the value changes. When the desired memory channel number is displayed, press **ACCEPT**. . . the display returns to normal operating mode with the setup values in that memory channel in effect.

### Recalling a Setup Using the Remote Keypad

Recalling a setup with the remote keypad is the same in this software option as it is in the Multiple Setup option.

1. Ensure the scale is at zero. . .  indicator is lit. If the scale is not at zero when recalling a setup, the display will show "ZEro" momentarily and return to normal operation.
2. Press **ALT** on the remote keypad. . . The display will show "**Alt**", or "**ZEro**" if scale is not zeroed, then returns to normal operation.
3. Enter the channel number desired. . . The display shows "**rEC xx**" (xx = 1-99)
4. Press **ACPT** on the remote keypad. . . The display will return to normal operation with the pre-programmed parameters installed.

## Standard Deviation Program

*The following features are unavailable with the Standard Deviation option:*

- Remote keypad operation
- Indicator diagnostics
- RS-485 operation
- 1155 printer interface.

The Standard Deviation statistics option allows the 3275 checkweigher to operate as a standard checkweigher that provides a statistical summary of your process. In addition, it allows the operator to select the number of samples to be weighed, prints out each weighment, or stores the weight data and prints out the statistical analysis after the last sample weighment.

This option allows you to automatically print each weighment and the statistical analysis, or to store the weighments in memory and printout just the statistical analysis without the weighments.

The printout of the statistical analysis contains the following information:

### Sample Printout:

```

~~~~~
OVER =  0.015 lb
UNDR =  0.012 lb
ACPT =  0.387 lb

OVER =  1
UNDR =  1
ACPT =  8
AVG =  0.3894 lb
HIGH =  0.447 lb
LOW =  0.369 lb
SD =  0.0214
CV =  5.51 PCT
SS =  10
~~~~~

```

### Operation

1. Set target and tolerance values as usual.
2. Press the **SETUP** key. . . The display shows "**SEtuP**"
3. Press the **TEST** key. . . The display shows "**SS**" for sample size and the current sample size.
4. Press the **OVER** or **UNDER** key. . . The sample size increases or decreases to your desired sample size. Sample sizes of 1 to 999 are possible when the automatic statistical printout is desired.
5. Press **ACCEPT** key. . . The 3275 saves the set information.
6. Turn printer or computer ON.
7. Begin sample weighing. . . Automatic transmission of the above statistical information will begin after the selected sample size is reached.

**To print sample weights  
automatically and statistical  
analysis on command:**

- |   |   |
|---|---|
| 1. Set target and tolerance values as usual.                        |   |
| 2. Press the <b>SETUP</b> key. . .                                  | The display shows " <b>SEtuP</b> "  |
| 3. Press the <b>TEST</b> key. . .                                   | The display shows " <b>SS</b> " for sample size and the current sample size.            |
| 4. Set sample size to " <b>0</b> ".                                 |   |
| 5. Press <b>ACCEPT</b> key.   | The 3275 saves the set information.   |
| 6. Turn printer or computer ON.                                     |   |
| 7. Begin sample weighing. . .                                       | Printer will print each weighment as it is made.  |
| 8. Press <b>PRINT</b> key when statistical analysis is desired. . . | Printer will print out the statistical information and <b>CLEAR?</b> will be displayed. |
| 9. Press <b>ACCEPT</b> key to clear the samples from memory. . .    | Scale is ready to repeat process.   |
| OR  |   |
| Press <b>ZERO</b> to save the samples in memory. . .                | Scale is ready to add more samples to memory.   |

## X-Bar R Program

*The following features are unavailable with the X-Bar R option:*

- Remote keypad operation
- Indicator diagnostics
- RS-485 operation
- 1155 printer interface.

The X-Bar R program is designed to weigh process samples and establish the average weight, the range between high and low weights, and the trend of deviation. This program has three operational modes: setup mode, X-Bar R mode, and checkweighing mode.

In setup mode you

- select a target weight,
- select a tolerance limit,
- select a sample size from 1-300
- select to print either A or B as follows:

- A. - All sample weighments
  - Tolerance limit
  - Target weight
  - Average weight
  - Range
  - Trend of deviation, if a trend occurs
- B. - Tolerance limit
  - Target weight
  - Average weight
  - Range
  - Trend of deviation, if a trend occurs

In X-Bar R mode you

- weigh samples
- obtain A or B, listed above, when last sample is weighed.

In X-Bar R mode the scale

- stores up to eight average weight readings in a memory queue,
- compares each new average weight to this queue to determine the weight trend,
- displays a trend message if a trend is detected, and
- deletes the oldest average from a full queue as new averages are added.

In checkweighing mode you can

- compare sample weights with target weight and tolerance limit.

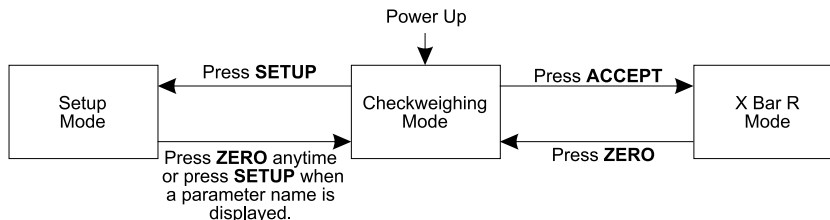
### Setup

The first thing you need to do before weighing samples is to access the setup mode and enter the weight parameters and sample size for your sample run. The parameters you set are

- target weight
- tolerance limit
- sample size
- type of printout (A or B, shown above)

The following flowchart and instruction steps will guide you through the process of setting these parameters.

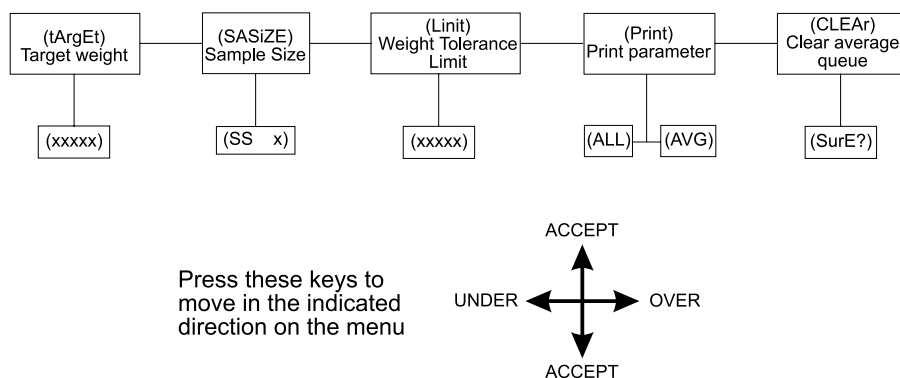
Upon power up, the scale will be in checkweighing mode. Figure 3 shows how to move between the three modes of operation.



**Figure 3**  
Moving among the 3275 operational modes

1. From Checkweighing Mode press **SETUP** to access Setup Mode. . .

**tArGEt** representing initial Setup Mode parameter is displayed. Figure 4 shows the setup mode menu and the parameters you need to set.



**Figure 4**  
Setup mode menu

2. Press **ACCEPT** to view target weight value. . .

**xxx** is displayed. **x**'s represent current setting for the target weight parameter.

3. Press and hold the **OVER** or **UNDER** key to scroll the value up or down. When the value you want is displayed, press **ACCEPT**. . .

**tArGEt** is displayed. Target weight is saved in scale memory, the queue is cleared and **RESET QUEUE** is automatically printed.

*You may also set Target Weight from Checkweighing Mode by placing the desired target weight on the scale and pressing **SETUP** twice.*



*If you make no change to the displayed parameter setting, when you press **ACCEPT**, RESET QUEUE will not be printed.*

4. Press **OVER** to advance to the sample size parameter, then press **ACCEPT** . . .
5. Press **OVER** or **UNDER** to scroll the value of the sample size up or down. . .
6. Press **ACCEPT** to accept displayed sample size. . .
7. Press **OVER** to advance to the weight tolerance limit parameter, then press **ACCEPT** . . .
8. Press **OVER** or **UNDER** to change weight tolerance limit. . .
9. Press **ACCEPT** to accept displayed limit value. . .
10. Press **OVER** to advance to print option parameter, then press **ACCEPT** . . .

**SASiZE** is displayed, then **ss x** is displayed. **x** = number of weight samples to be included in the weight average.

Sample size, **x**, increases or decreases. Sample size must be between 1-300.

**SASiZE** is displayed. Sample size is configured into scale memory, queue is cleared, and **RESET QUEUE** is automatically printed.

**Linit** is displayed, then **xxx** is displayed. **x** = maximum weight a sample may be over or under the target weight and still be acceptable. The display uses **n** in place of the letter **m**.

Limit value, **x**, increases or decreases.

**Linit** is displayed. Limit value is configured into scale memory, queue is cleared and **RESET QUEUE** is printed.

**Print** is displayed, then **ALL** or **AUG** is displayed.

Selecting **ALL** causes all these fields to print following a sample run:

- weight of each sample
- average weight of samples (X-Bar)
- range (R) of weight deviation
- trend message, if a trend is detected

Selecting **AUG**, which means average, causes the above fields to print, minus the individual weights. See Figure 5.

- |  |   |
|--|---|
| <p>11. Press <b>OVER</b> or <b>UNDER</b> to toggle the options. . .</p>  | <p>Display toggles between <b>ALL</b> and <b>AUG</b>.</p>   |
| <p>12. Press <b>ACCEPT</b> to accept the displayed option. . .</p>   | <p><b>Print</b> displayed. Print option parameter is configured.</p>  |
| <p>13. Press <b>OVER</b> to advance to the clear queue parameter, then press <b>ACCEPT</b>. . .</p>  | <p><b>CLEAR?</b> is displayed, then <b>SurE?</b> is displayed, asking you if your are sure you want to clear the present queue now.</p>                                       |
| <p>14. This parameter consists of two choices: preserve the queue or clear the queue.</p> <p style="margin-left: 20px;">A. Press any key but <b>ACCEPT</b> if you want to preserve the queue. . .</p> <p style="margin-left: 20px;"><b>OR</b></p> <p style="margin-left: 20px;">B. Press <b>ACCEPT</b> if you want to clear the queue. . .</p> | <p><b>CLEAR?</b> is displayed and queue values remain intact.</p><br><p><b>CLEAR?</b> is displayed, the queue is cleared and <b>RESET QUEUE</b> is automatically printed.</p> |
| <p>15. Press <b>ZERO</b> to exit Setup Mode. . .</p>   | <p>Scale weight is displayed. Annunciator display varies depending on parameter values set. Scale is in Checkweighing Mode.</p>   |

## Doing a Sample Run in the X-Bar R Mode

*No weight within 10 divisions of zero will be accepted as a sample*

*The units key will only function when all averages are cleared.*

*If a trend occurs, you must press **ACCEPT** to continue or **ZERO** to clear the trend registers and return to checkweighing mode. This is done if an adjustment is made to the process being checked.*

Now that you have configured your desired parameters into the scale memory you can weigh samples and obtain a printout of the X-Bar R statistical analysis by following these instructions.

1. From checkweighing mode, press **ACCEPT**. . .

**Pt 1** is displayed in X-Bar R mode prompting you to **put** sample 1 on the scale.

2. Place sample on scale. . .

One of two things occurs, A or B:

- A. Weight of sample is displayed and OVER, UNDER, or ACCEPT illuminates

**OR**

- B. **CLEAR?** is displayed if scale was not stable or zeroed when weight was placed on the scale. **CLEAR?** is also displayed if weight on scale is within 10 divisions of zero.

If B, remove weight and wait for display to prompt to replace sample, then place sample on scale.

3. Remove sample after weight is displayed. . .

**Pt 2** is displayed.

4. Repeat steps 1 - 3 until number of sample weighments equals configured sample size. When you remove last sample. . .

**Print** is momentarily displayed, printer outputs statistical analysis of weights in sample run, and average weight is added to the queue.

If a trend in the average weights in the queue occurs, a trend message appears on the printout and on the digital display.

If the errors causing a trend are all in the same direction, the OVER or UNDER annunciator illuminates indicating the direction of the trend.

If more than one trend occurs, only the highest priority trend message is printed.

All possible trend messages appear in Table 1. If no trend occurs, the scale displays **Pt 1** and is ready for the next sample run.

5. Press **ACCEPT** if trend message is displayed. . .

Message is cleared, **Pt 1** is displayed, and you can start new sample run.

<u>Message</u>	<u>Meaning</u>
<b>1 of 1</b>	The last average in the queue has an error greater than 3x the limit.
<b>2 of 3</b>	Two of the last three averages in the queue have an error greater than 2x the limit.
<b>4 of 5</b>	Four of the last five averages have an error greater than the limit.
<b>8 of 8</b>	Eight of eight averages are on the same side of the target weight.

**Table 1**  
Displayed Trend Messages



**Figure 5**  
Examples of Printed Output from a Sample Run

## Checkweighing

With the X-Bar R software installed, this scale can also function as a basic checkweigher.

1. Set target weight and weight tolerance limit parameters as instructed in the *Setup* section.
2. Access checkweighing mode. . . If platform is empty, red UNDER segments illuminate and 0000 is displayed.
3. Place sample on scale. . . OVER, UNDER or ACCEPT illuminates and weight of sample is displayed.
4. Repeat step 3 for all samples. . . Appropriate information is displayed. No printout occurs in checkweighing mode.

## LB-OZ Program

*LB-OZ option may not be available when combined with other software. Check with factory representative for further information.*

*LB/OZ units are not legal for trade in the USA.*

This software program provides another unit of measure, LB-OZ. When this software is installed, access this unit of measure by pressing the **UNITS** key until the unit annunciator is blank. The display will now show weight in pound and ounce units.

The table below shows the LB-OZ capacities and resolutions that correspond to the capacities in the calibration menu.

<b>LB-OZ Capacities and Resolutions</b>	<b>Capacity listed in Calibration Menu</b>
6 lb x .02 oz	6 lb
10 lb x .05 oz	10 lb
30 lb x .1 oz	30 lb
60 lb x .5 oz	60 lb
100 lb x 1 oz	100 lb
200 lb x 1 oz	200 lb
500 lb x 2 oz	500 lb

In the 10 lb capacity, if weight exceeds 9 lb 15.95 oz the display will roll over to 0 lb 0.00 oz.

If the 3275 is in deviation display mode and weight is going in the negative direction, the minus sign (-) will disappear when there is no more room on the display. Even though the display may not show the minus sign, the printout will show all correct weights and minus signs.

# Percent Program

Certain features are not available for use with the Percent Program software installed.

- Tare is not available.
- Auto print is not available.
- Indicator diagnostics are not available.
- Setup is only allowed in the percent mode.
- Deviation display mode is not available.
- Optional print format is not available.

LB/OZ units are not legal for trade in the USA.

## Setting Manual / Auto Option

### Setting the Specified Percentage

The percent program software graphically shows you when a specified percentage of weight has been added to an initial base weight on the 3275.

During operation the center **ACCEPT** segment lights when the target percentage is reached. Target percentage is the base weight (100%) plus the specified percentage.

**EXAMPLE:** If you have a product that weighs 50 pounds and you wish to add 10% to it, the target percentage becomes 110% of the base weight, or 55 pounds. The center **ACCEPT** segment illuminates when the percentage reaches 110% or the weight reaches 55 pounds. When the scale weight represents less than the target percentage, segments illuminate to the left of the center segment. When scale weight represents more than the target percentage, segments will illuminate to the right of the center segment. At the same time, the digital display shows you weight or percentage, depending on the mode or units you have selected.

During setup procedures you will decide how the scale will accept a new base weight—manually or automatically, set the specified percentage, and set over/under tolerances. The instructions are presented as follows:

- Setting Manual/Auto Option
- Setting the Specified Percentage
- Setting the Over/Under Tolerance
- Operation in Manual Mode
- Operation in Automatic Mode

In this section, you select how the scale accepts a new base weight, manually or automatically. You make this selection through the configuration menu. (Configuration procedures are documented in the 3275 Service Manual.) In the configuration menu there is an option called Autoprint. Under this menu option you can choose **Autoon** or **AutooF**. With the percent program installed on your 3275, choose **Autoon** to enable the automatic accept feature or choose **AutooF** to enable the manual accept feature.

The following instructions tell you how to set the specified percentage. This is the percentage of weight you wish to add to the base weight. Select this specified percentage while in the percent mode of operation.

1. Press **UNITS** until no unit is highlighted. . . . 3275 is now in the percent mode.
2. Press **SETUP**. . . "SEtuP" is displayed.
3. Press **ACCEPT**. . . The **ACCEPT** key flashes and the last percentage entered appears in the digital display.
4. Press **OVER** to increase the percentage or **UNDER** to decrease the percentage.

## Setting the Over/Under Tolerance

5. Press **ACCEPT** when the percentage you want is displayed. Range of percentage available is 0 to 100%...  
“**SAVED**” is momentarily displayed then “**0.0**” is displayed.

In this section you select over/under tolerances which set a “window” of acceptable weight around the specified percentage you selected earlier.

**Example:** If the specified percentage is 10% of base weight and the under and over tolerances are both 1%, green ACCEPT segments will be lit when the total scale weight is between 109.0% and 111.0% of the base weight. You can use the remote keypad to enter these tolerances. (Refer to the 3275 User’s Manual for remote keypad instructions.)

With no units highlighted on the display:

1. Press **SETUP**...  
“**SEtUP**” is displayed.
2. Press **OVER** to set the over tolerance or **UNDER** to set the under tolerance...  
OVER or UNDER flashes, depending on which one you pressed, and the last tolerance setting is displayed.
3. Press **OVER** to increase tolerance or press **UNDER** to decrease tolerance...  
Tolerance increases or decreases on digital display.
4. When desired tolerance is displayed press **ACCEPT**...  
“**SAVED**” is momentarily displayed, then the scale returns to normal operation.
5. Repeat steps 1-4 to set the other tolerance.

## Operation in Manual Mode

1. Place your base weight on the scale.
2. Press **ACCEPT**...  
In percent mode “**100.0**” is displayed. If a unit is highlighted the weight is displayed in that unit of measure. The fan graph in both cases shows under.

*In manual and automatic mode you can choose to view scale weight as a percentage value or simply as weight. Press the **UNITS** key until the unit of measure you want to use is highlighted. If you want to view the weight as a percentage, press the **UNITS** key until no unit is highlighted.*

## Operation in Automatic Mode

3. Add new material to the scale until the fan graph center **ACCEPT** segment is lit. At that weight, the percentage you preset has been added to your base weight.
4. Repeat steps 1-3 for any new object you need to process. **The object's weight must exceed 50 divisions in pounds mode for the scale to accept the weight.**

In automatic mode you must empty the scale and add a new weight of more than 50 divisions for the scale to accept the new weight. On a six-pound scale with .002 lb divisions, 50 divisions is .1 pound. Your target percentage now applies to the new base weight.

1. Place your base weight on the scale.

The object is automatically accepted by the scale as the base weight. The digital display shows "**100.0**", for 100%, if in the percent mode. If a unit of measure is highlighted the weight of the object is displayed in that unit of measure.

2. Add more weight until the center **ACCEPT** segment is lit.

At that weight, the specified percentage has been added to your base weight.

3. Repeat steps 1 & 2 with a new weight.

**The base weight will not change until the weight on the scale drops to within 50 divisions of zero and a new weight is added which exceeds 50 divisions of zero.**

## Setpoint Option

There is an optional RS-232 board and software package for the use of setpoints for various functions. If your 3275 is equipped with this option see the Service Manual for specific instructions on your setup or talk to your local Weigh-Tronix representative.

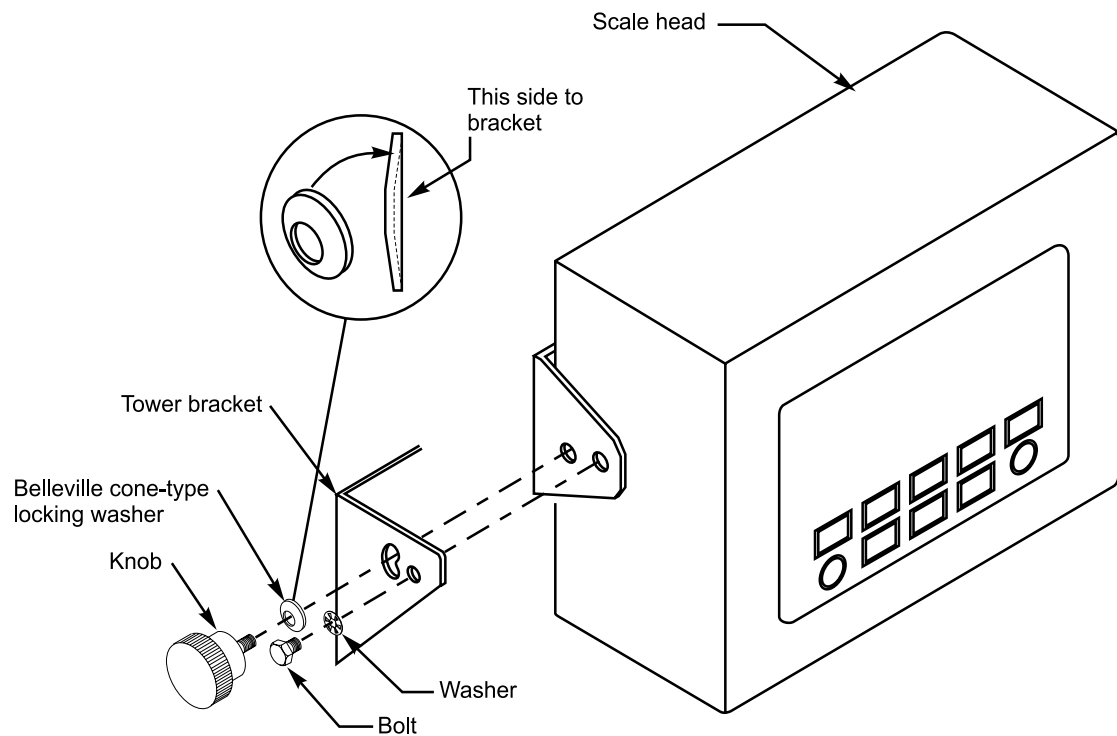


# Plastic Knob Installation for USDA Approved Applications

Below are the instructions and illustration for installing the plastic knobs which are necessary for USDA approved installations.

Install knobs by

- Removing the two 10-32 hexhead screws accompanying the unit.
- Replace with knobs.
- Use supplied Belleville washers between knob and mounting surface.
- Install the washer with the major diameter bearing against mounting surface.



**Figure 6**  
Plastic knob installation

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