IQ 6000

Bench Scale

Installation/Operation Manual

RICE LAKE WEIGHING SYSTEMS
Industrial Solutions on a Global Scale®

ISO 9001 REGISTERED

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Contents

About this Manual

This manual contains operating procedures for the IQ6000 bench scale and provides the user with all the information necessary for set-up and operation. This manual is organized based on the procedures you will likely follow when setting-up and using your scale. Keypad keys appear in this manual in bold text and all uppercase letters. The **-**, **+**, *****, and **#** keys are only bolded.

1. Introduction

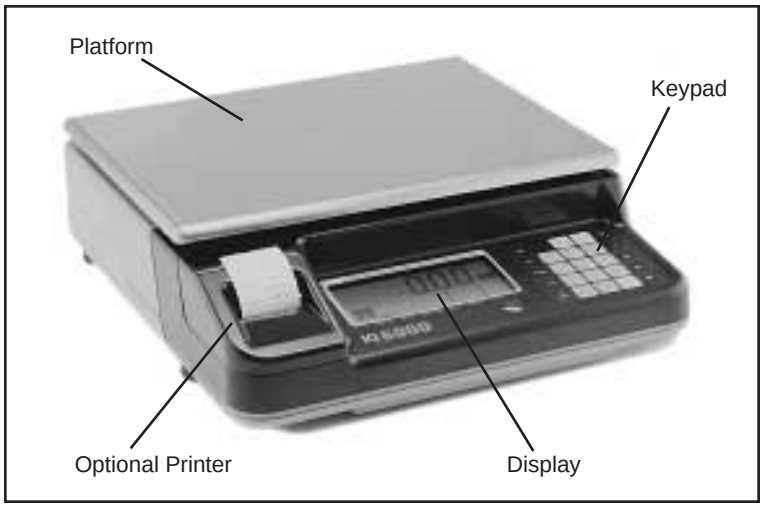
The versatile IQ 6000 scale can be used as a bench scale for straight weighing operations, a checkweigher for simple over/under checking, or as a counting scale for accurate piece counting .

When used for straight weighing, the scale can accept tares either taken as actual weights from the platform or keyed-in digitally by the operator. A code number can be associated with each separate weighment. Individual weighments can be accumulated by using addition or subtraction keys. Individual weights can be printed with associated code numbers and time and date. Accumulated totals can also be printed.

As a checkweigher, three setpoints can be configured into Under, Accept, and Over values. Progress toward achieving the setpoints can be graphically viewed on the display as weight is added. Optionally, setpoint output signals can be used to trigger 120 VAC external devices.

With any counting scale product, there are three areas that determine the accuracy of the parts count received.

- Accuracy of the counting scale
- Accuracy in the entry of the information (counting samples correctly, or entering average piece weights)
- Weight consistency of the parts



Because manufacturing discrepancies can appear in the most controlled environments and processes, weight consistency of the parts is the most likely to cause error.

As an example, in counting sheets of paper, the operator must review the effect of moisture on the weight of the pieces at the top of the stack compared to pieces at the middle of the stack. The pieces on the top of the stack absorb more moisture and are heavier then the pieces in the middle that are only exposed to moisture at the edges of the sheets.

Counting scale accuracy is primarily determined by the following factors:

- Sample size (number of pieces)
- Total sample size as a percentage of full scale capacity
- Piece-to-piece weight variation

Sample size is the most common cause of parts counting inaccuracy because operators tend to use the minimum number of sample pieces. The scale is defaulted to compute average piece weight from a 10-piece

sample. However, using a 25-piece sample will greatly enhance counting accuracy.

To choose a sample that will give you the greatest accuracy:

- The smallest part to be counted must be greater than one counting resolution of the scale.
- A 10-piece sample of the smallest part must weigh more than .1% of the scale's capacity to be accepted.
- The gross capacity of the scale should be greater than the heaviest box of any part to be counted.

Counting accuracy can also be increased by using a larger portion of the scale's capacity for the sample. Note that the weight *display* resolution does not affect the *counting* accuracy of your IQ6000. Displayed weight resolution range is 1 part in 3000 to 1 part in 15000, but internal resolution for counting can be as high as 150,000. A quick-reference shortcut to view the internal counts at any time is to hold down the REZERO key and enter 0-0-9.

There is a direct relationship between piece-to-piece weight variation and counting accuracy. To achieve maximum efficiency from your counting scale, the sample piece weight should be as close as possible to the average piece weight.

The option block to the left of the display screen can accept a tape printer (as shown), an RS-232 serial communication interface, or a setpoint output option.

We have produced what we think is the finest counting scale in today's market. To achieve the best results in you counting application, please consult with your local Rice Lake Weighing Systems distributor for review of your specific application.

2. Installation and Start-up

2.1 Unpacking

Each component of the IQ6000 system is packed in a specially designed carton. Remove each component from its carton, separate the component from its polystyrene shell assembly, and set the assembly aside. Inspect the carton interior and inner panels to be sure that all accessories have been removed from the carton.

NOTE:
Be sure to replace all packing materials within the carton set. Store the carton set in a secure area so it is available if shipment of the scale is required.

2.2 Inspecting

Immediately after unpacking, visually inspect the scale. If any damage has been incurred during transportation, notify both the shipper and RLWS immediately.

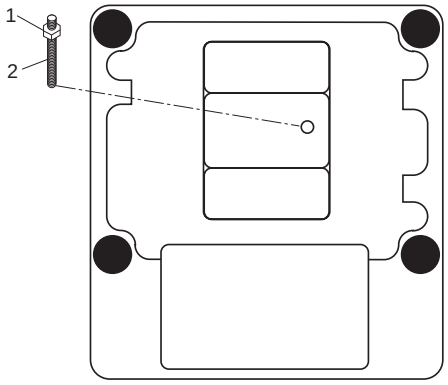
2.3 Repacking

If the IQ6000 counting scale must be returned for modification or repair, be sure that it is properly packed with sufficient cushioning materials and in the original carton assembly. Any damage caused by improper packaging will not be covered by warranty.

2.4 Unlocking and Locking Procedures

Your IQ6000 scale is delivered in a locked position to protect the load cell during shipment. Use the following procedure to unlock the scale's load cell.

1. On underside of scale, use wrench to remove locking nut (1).
2. Use allen wrench provided with scale to turn bolt (2) in a counterclockwise direction and remove. Because scale must be locked prior to shipping, save nut and bolt in a safe location for possible repackaging.



2.5 Leveling

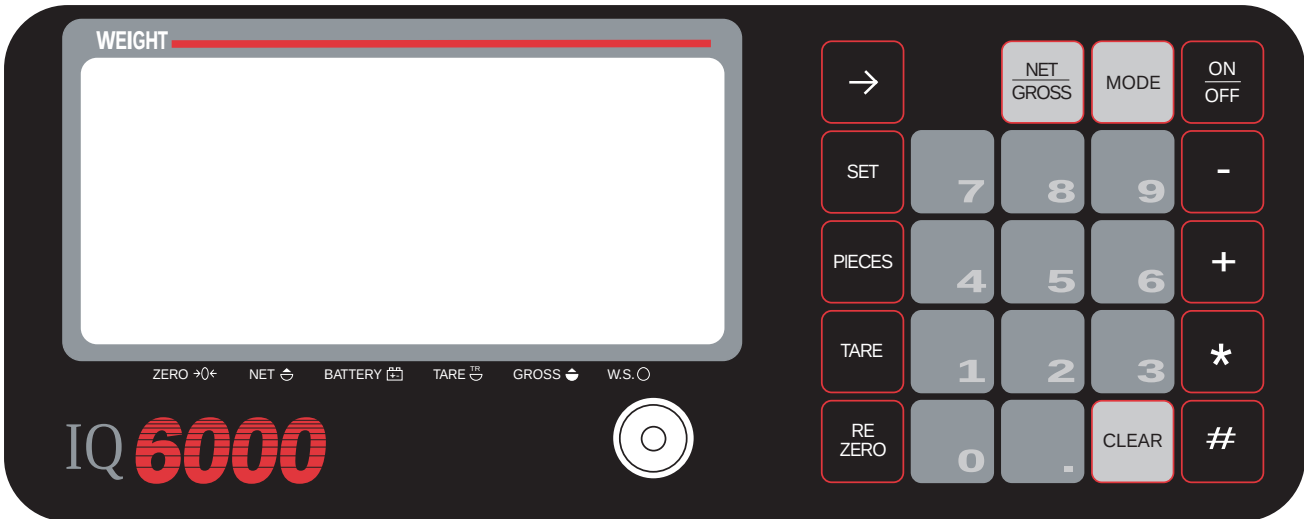
1. Place scale on a reasonably level surface.
2. While watching level bubble guide on front of scale, level scale using adjustable legs.

2.6 Power-Up and Display Check

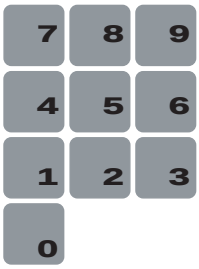
1. Plug AC/DC adaptor cord into receptacle on rear of unit. Set battery function or connect power cord AC plug into a grounded 115 VAC receptacle.
2. Press **ON/OFF** to activate display and allow scale warm up for 10 minutes. Display scrolls through scale's program version number, a complete check of all display graphics, and a numeral display check. When display check is completed, the display shifts into Weighing mode.

NOTE:
If the scale displays erratic data, it may be caused by a power transient. Turn the scale off and unplug it from the wall outlet. Restart by plugging the scale back in and pressing the **ON/OFF** key.

3. Keyboard and Display Functions



3.1 IQ6000 Key Functions



Numeric keypad

Key numerical values into the system. Normally you key in the number desired, then press a function key to enter the value. If you make a mistake keying in a number, press **CLEAR** to erase the number.

Decimal point

Set decimal point when entering numerical data.

CLEAR

Clear keyed-in data from the display. In Counting mode, this key returns the scale to Weighing mode.

MODE

Toggle between weighing units selected.

NET/GROSS

Toggle between Net and Gross weight display.

FEED

Advances tape on optional built-in printer.

SET

Programs LO, OK, and HI setpoint values.

PIECES

Sample entry in counting mode.

TARE

Enter a tare value into the system.

REZERO

Reset weight display to true zero.

CODE

Enter product code numbers. In Calibration mode: enters data and moves to next step.

TOTAL

In Operating mode: displays and prints weight totals, prints weight data without adding, and totals accumulation after adding or subtracting. In Configuration mode: enters set-up choices and advances to next specification. In Calibration mode: changes weight units.

PLUS

Weight data addition and print out.

MINUS

Weight data subtraction and print out. In Configuration mode, enters set up choices and moves back to previous specification.

ON/OFF

Turns display on or off, but does not control main power. Main power to load cell and CPU is connected whenever AC/DC adaptor cord is plugged in.

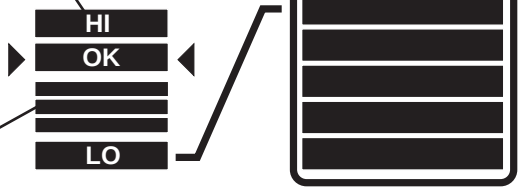
3.2 Display Graphics

LO, OK, HI Setpoint Graphic:

LO — On when scale weight reaches programmed LO value.

OK — On when scale weight reaches programmed OK value.

HI — On when scale weight reaches programmed HI value.



Coarse Fill Graphic:

Four lower bars light as percentages of LO setpoint value are reached.

Lowest bar — 25% of LO

2nd bar — 50% of LO

3rd bar — 75% of LO

4th bar — 100% of LO

Top bar lights as OK setpoint value is reached.

Fine Fill Graphic:

After LO value is reached, three bars between LO and OK light in sequence as the weight value approaches the OK value.

Lowest bar — LO value, plus 25% of value between LO and OK

2nd bar — LO, plus 50% of value between LO and OK

3rd bar — LO, plus 75% of value between LO and OK

OK and arrows — 100% of OK value

Scale Condition Graphics:


Weight Stable, scale not in motion


Gross Weight

Tare in Register


Battery Low


Net Weight


Display at True Zero

Units Display:

Kilograms

Grams

Pounds

Pieces

Ounces

Pennyweight

4. Operating Instructions

4.1 Date and Time Setting

1. Press **REZERO** and **TARE** simultaneously and release.
2. Enter date by numeric key in the order specified by configuration parameter 07 (see Section 5.1 User Menu Configuration Chart). For example, parameter 07 set for MMDDYY: April 15, 1995 = 041595. Display flashes for confirmation.
3. Press ***** to enter data. Display shifts to time prompt, "t1".
4. Enter time by numeric key in 24-hour military format. Display flashes for confirmation.
5. Press **#** to set time and date and return to Weighing mode.

4.2 Setting LO, OK, and HI Setpoints

1. Press **SET**. Display prompts with LO graphic along with scale capacity value (default when no setpoint number has been established).
2. Key in value for LO setpoint. Key in both numerals and decimal point.
3. Press **SET**. Value from LO setpoint step above is entered, and display prompts with OK graphic and scale capacity value.
4. Key in value for OK setpoint. Key in both numerals and decimal point.
5. Press **SET**. Value from OK setpoint step above is entered, and display prompts with HI graphic and scale capacity value.
6. Key in value for HI setpoint. Key in both numerals and decimal point.
7. Press **SET** to enter HI setpoint value and return display to Weighing mode.

4.3 Setting One-Touch Tare

1. Place container (desired tare weight) on platform.
2. Press **TARE** to enter weight into tare register. Tare Register icon 

appears on display.
3. To clear tare from register, remove all weight from platform and press **TARE**. Tare Register icon disappears from display.

4.4 Setting Digital Tare

1. With platform empty, enter tare value by numeric key.
2. Press **TARE** to enter value into tare register. Tare Register icon 

appears on display.
3. To view value in Tare Register, press **NET/GROSS** to shift display into Net mode. Tare value appears as a negative value if platform is empty.
4. To replace an entered tare with a new value, remove weight from platform and repeat steps 1 and 2.
5. To clear tare, remove all weight from platform and press **TARE**. Tare can also be removed by entering 0 with numeric key and pressing **TARE**. Tare Register icon disappears from display.

4.5 Setting Digital Tare During Weighing

1. With platform loaded and Tare Register empty, enter tare value by numeric key.
2. Press **TARE** to enter value into tare register. Tare Register icon 

appears on display.
3. To view value in Tare Register, press **NET/GROSS** to shift display into Net mode. Tare value appears as a negative value if platform is empty.
4. To replace an entered tare with a new value, remove weight from platform and repeat steps 1 and 2.
5. To clear tare from register, remove all weight from platform and press **TARE**. Tare can also be removed by entering 0 with numeric key and pressing **TARE**. Tare Register icon disappears from display.

4.6 Weight Addition and Subtraction

1. If desired, enter code number (up to six digits) by numeric key and press **#**. That code number is printed with each accumulated value until either a different code number is entered or a total print command is executed. If a code number is not entered, the unit prints six zeroes.

   NOTE:
   If SPC 02 bit 0 is set to 1, print weight, whatever weight is on the scale is printed when the **+**, **-**, or ***** is pressed. If SPC 02 bit 0 is set to 0 (default), print and accumulate weight, the **+** and **-** keys print and accumulate weight, and the ***** key totals and prints the weight and rezeroes the accumulator. See Section 8.1, Built-in Printer Option for more information.
2. Place weight on platform and press **+** to add the weight value to the accumulator. Total weight appears and display flashes four times.
3. Remove weight. Place another weight on platform. Press **+** for addition or **-** for subtraction. Total accumulated weight appears and display flashes four times.
4. To display total accumulated weight, press *****. Units icon flashes.
5. To print total weight, press ***** again. After printing total weight, accumulator clears.

4.7 Counting Scale Operation

1. Place all 10 items on scale platform at once as a sample. Press **PIECES**. The scale calculates a unit weight, shifts into Counting mode, and displays “10 PCS”.

   NOTE:

   If the sample is less than 0.1% of scale capacity, the display will prompt “ADD X”. Place X more samples on the platform and press **PIECES** again.
2. Remove sample pieces from scale. The scale is now in Counting mode and display reads “0 PCS”.
3. Place unknown quantity of similar items onto platform. Number of pieces of item are displayed.
4. To exit Counting mode, remove items from platform and press **CLEAR**. Scale returns to Weighing mode.

   NOTE:
   If scale is turned on with weight on platform, it zeroes off the weight if within the rezero range.

5. Setting Configuration

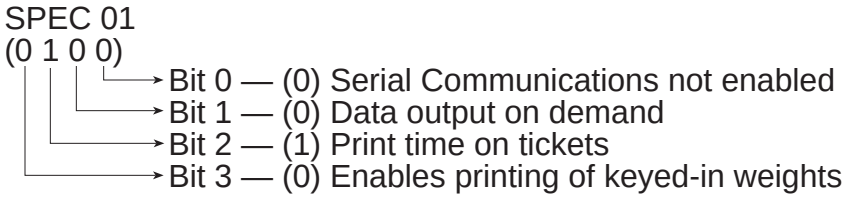
Two separate configuration menus control the operation of the IQ6000:

- The first is a User Menu containing parameters (called specifications) that an operator may wish to change. This menu containing Specifications 00 to 09 is accessed by holding down the **REZERO** and entering 141 with the keypad.
- The second is a specialized Installer Menu with parameters applicable for specialized applications. This menu, containing Specifications 10 to 19, is accessed by holding down the **REZERO** and entering 142 with the keypad.

Both menus consist of several two-digit Specifications, each consisting of four single-bit binary choices which can be set to either 0 or 1. For instance, in Specification 01 of the User Menu reproduced below, the four binary choices are set to 0110. For clarity, the defaults are shown in bold below.

Spec #	Bit 3	Bit 2	Bit 1	Bit 0
SPC 01	Print keyed-in weight	Print time	Data Output	Enable Serial Interface
(0100)	**0 : Yes** 1 : No	0 : No **1 : Yes**	**0 : Demand** 1 : Continuous	**0 : No** 1 : Yes

The factory default setting for each Specification is printed in parentheses beneath the Specification number in the menu charts. It can be seen from the default setting in the partial chart above that Specification 01 has the following functions:



When accessing either the User or Installer Menu, the active Specification will flash its two-digit number as SPC XX, alternating with its default setting. Use the following keys to change settings:

- 0 and 1 keys are used to enter the 0 or 1 choices in the binary selections.
- ***** key is used both to set the selection and advance to the next specification.
- - key is used both to set the selection and move back to the previous specification.
- # key is used to exit the Configuration mode and return the scale to Weighing mode.

NOTE:
Always enter choices by advancing to next specification before exiting Configuration mode.

5.1 User Menu Configuration Chart

Hold down **REZERO** and key in 141 to access User Menu.

Spec # (default)	Bit 3	Bit 2	Bit 1	Bit 0
SPC 00 (0000)	not used	Enable LO, OK, and HI Setpoints 0=yes, 1=no	Negative weighing accumulation 0=yes, 1=no	Enable printer connection 0=no, 1=yes
SPC 01 (0100)	Enable keyed-in weight to print 0=yes, 1=no	Print time and date 0=no, 1=yes	Data output 0=Demand 1=Continuous	Enable serial interface 0=no, 1=yes
SPC 02 (0000)	Print Zero Weight 0=no, 1=yes	Change Net/Gross 0=yes, 1=no	Weighing units change 0=yes, 1=no	Auto print 0=no, 1=yes
SPC 07 (0010)	Setpoint display and output 0=positive weight only 1=negative weight only	Setpoint display and output 0=absolute value 1=sign selectable	Date print out order 00=YYMMDD (YY--Year) 01=DDMMYY (DD--Day) 10=MMDDYY (MM--Month)	
SPC 08 (1100)	Print code number 0=no, 1=yes	Display filling graphic 0=no, 1=yes	Insufficient sample range 10=none 00=0.1% of scale capacity. 01=0.2% of capacity. 11=0.4% of capacity.	
SPC 09 (1010)	Automatic power OFF timer for display 0000=None 0100=4 min. 1000=8 min. 1100=12 min. 0001=1 min. 0101=5 min. 1001=9 min. 1101=13 min. 0010=2 min. 0110=6 min. 1010=10 min. 1110=14 min. 0011=3 min. 0111=7 min. 1011=11 min. 1111= 15 min.			

5.2 Installer Menu Configuration Chart

Hold down **REZERO** and key in 142 to access Installer Menu. If the unit will not allow you to enter this menu, the Configuration/Calibration lock-out switch may be ON. Contact your dealer for assistance.

Spec # (default)	Bit 3	Bit 2	Bit 1	Bit 0
SPC 13 (0000)	Zero tracking with tare entered 0=yes, 1=no	Re-zero with tare entered 0=yes, 1=no	Scale start range 0=+600 internal counts 1=+3000 internal counts	Display and print weight units 0=yes, 1=no
SPC 14 (0000)	Clear tare manually 0=yes, 1=no	Tare decrease 0=yes, 1=no	Accumulate tare 0=yes, 1=no	Tare limit 0=100% of full scale 1=5% of full scale
SPC 15 (0000)	Regulated scale functions @ 0=no, 1=yes	Display when Net weight is negative 0=minus sign, 1=blank	Display when Gross weight is negative 0=minus sign, 1=blank	Zero light range 0=Gross (± 1/4 dsp. div.) 1=Net (± 1/4 dsp. div.)
SPC 16 (0000)	Auto Tare Clear 0=no, 1=yes	Auto Tare Clear range 0=Net 21 dsp. div. 1=Net 1 dsp. div.	Allow digital tares to be keyed in 0=yes, 1=no	Print Limit (zero weight) 0= 0 display divisions 1= 20 display divisions
SPC 17 (0000)	Decimal point format 0=period, 1=comma	Allow data output (RS-232) when scale is in motion 0=no, 1=yes	Allow negative total 0=yes, 1=no	Repeat Print without scale returning to zero 0=yes, 1=no
SPC 18 (0000)	not used	not used	not used	Tare overwrite without clearing previous tare 0=yes, 1=no
SPC 19 (1001)	Load cell sensitivity (mV/V) 0000=3.46—4.00 mV/V 0001=3.00—3.46 mV/V 0010=2.59—3.00 mV/V 0011=2.55—2.59 mV/V	0100= 1.95—2.55 mV/V 0101=1.69—1.95 mV/V 0110=1.46—1.69 mV/V 0111=1.27—1.46 mV/V	1000=1.09—1.27 mV/V 1001=0.95—1.09 mV/V 1010=0.82—0.95 mV/V 1011=0.71—0.82 mV/V	1100=0.61—0.71 mV/V 1101=.53—.61 mV/V 1110=0.46—0.53 mV/V 1111=0.40—0.46 mV/V

@ If SPC 15 bit 3 is set to “yes”:

- The tare indicator is disabled.
- The unit automatically switches to NET mode when a tare is entered.
- A digital tare cannot be entered when there is weight on the scale.
- The counting function is disabled.

Use the following keys to change settings:

- 0 and 1 keys are used to enter the 0 or 1 choices in the binary selections.
- ***** key is used both to set the selection and advance to the next specification.
- - key is used both to set the selection and move back to the previous specification.
- # key is used to exit the Configuration mode and return the scale to Weighing mode.

NOTE:
Always enter choices by advancing to next specification before exiting Configuration mode. Otherwise, changes made may be ignored.

6. Calibration

At any step in the Calibration process, you may press + to escape. The displayed weight resolution range is 1 part in 3,000 to 1 part in 15,000.

1. Hold down **REZERO** and enter 8 7 1 5 with keypad to enter Calibration mode. If the unit will not allow you to enter the Calibration mode, the Calibration lock-out switch may be ON. To find out, hold down **REZERO** and enter 2 8 4. If lock-out switch is ON, contact factory for assisstance.
2. Select appropriate weighing units by pressing ***** until correct unit is displayed.

   NOTE:
   If lb or kg is selected, pressing **MODE** from the Weighing mode will toggle you between these two units. If g, oz, or dwt is selected, pressing **MODE** from the Weighing mode will toggle you between these three units.
3. Press # to enter selected unit. Display shifts to interval size prompt.
4. Default graduation is displayed. If change is desired, enter new value by numeric keypad. The only integers accepted for minimum graduation are 1, 2, 5, 10, 20, or 50. Integers must be entered with the decimal (1.0, 2.0, etc.). Press # to enter value on display. Display shifts to capacity prompt.
5. Default capacity value is displayed. If change is desired, enter new value by numeric keypad. Press # to enter value on display. Display shifts to zero calibration prompt.
6. With scale platform empty, press # to enter zero calibration. Scale calculates zero calibration, then display shifts to span calibration prompt.
7. Capacity value is displayed. Place test weights equal to that value on platform and press #. Span calibration is calculated and scale exits Calibration mode.

   NOTE:
   If sufficient test weights for capacity value are not available, place weights equalling at least 50% of capacity on platform and key in their value with keypad. Press # to enter span calibration and exit Calibration mode.

7. Display Messages

Message	Description
- - - - - -	The scale is calculating to set zero or the unit weight.
888888	The scale is calculating a rezero operation or a weight calibration. If this message continues, then an unstable condition is occurring.
Add OF	Displayed weight or accumulated total weight exceeds 6 digits.
Add XX	Weight of sample insufficient for scale range. Add XX more pieces.
FFFFFF	Number of pieces on platform exceeds 6 digits.
OF	Displayed weight exceeds scale capacity.
OL Err	Overload error.
SP Err	Inappropriate setpoint value entered.
SPn Er	Weight value entered during calibration procedure is incorrect.
Sub UF	Total weight is negative.

8. Optional Equipment

The IQ6000 can accommodate your choice of one of three options in the option module block. The option block is located on the front panel directly to the left of the display. Note that only one of the three options can be installed. The options are:

- Built-in dot matrix roll printer
- RS-232C serial interface
- Solid state relay board for LO, OK, and HI setpoints

Additionally, an internally-mounted rechargeable 9.6 VDC nickel-cadmium battery pack is available to operate the scale in locations where AC power is not available.

NOTE:
When any of the above options are installed, operate the scale with the AC power adapter only. These options draw substantial current and operating time is significantly shortened if the battery pack is used.

8.1 Built-in Printer Option

The IQ6000 includes a built-in printer for printing out receipts and weight accumulation totals. The printer uses paper rolls 1.75" (44.5 mm) wide, 65' (19.81 m) long, with a roll core inner diameter of .375" (9.56 mm). The 5 x 7 dot matrix printer unit can print up to 16 digits per line. The following items can be printed:

Item	Digits
Date (MMDDYY)	6
Time (HHMM)	4
Code no.	6
Weight	6
Total weight	6
No. of transactions	4
Also, +, -, *, T, kg, lb, g, oz, dwt	

You must use the charts in Section 5.1 and 5.2 to adjust the specifications to create the print format you desire. The following specification numbers affect the printer:

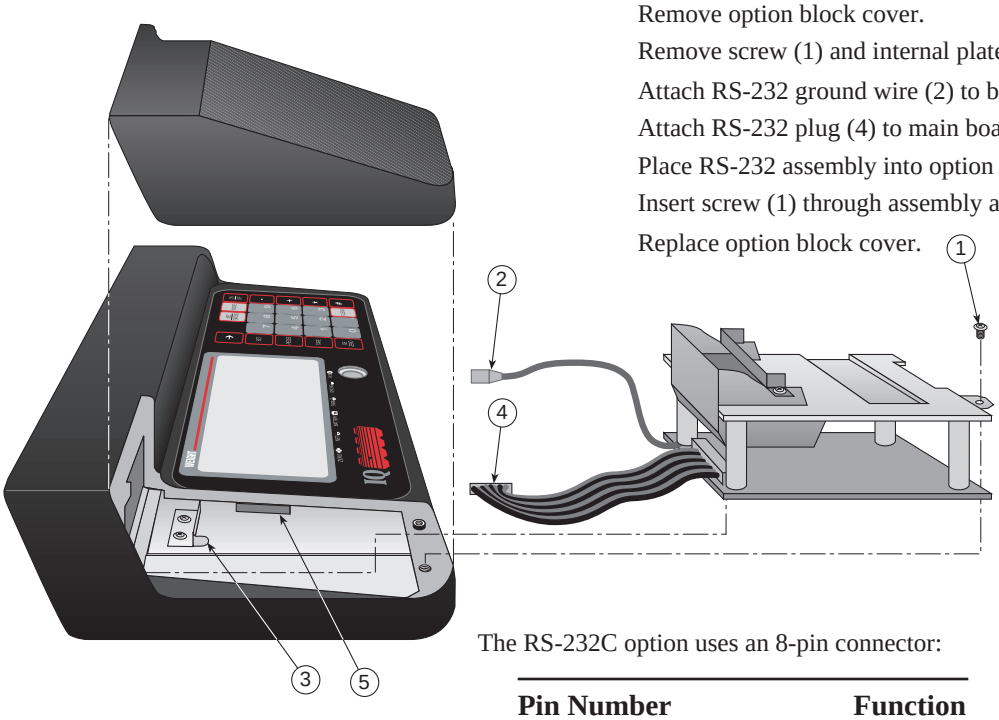
- SPC 00 bit 0 must be set to 1 to enable a printer connection.
- SPC 01 bit 2 determines if the date and time are printed.
- SPC 02 bit 0 controls whether weight is accumulated and printed. If SPC 02 bit 0 is set to 1 (print weight), whatever weight is on the scale is printed when the **+**, **-**, or ***** is pressed. If SPC 02 bit 0 is set to 0 (print and accumulate weight), the **+** and **-** keys print and accumulate weight, and the ***** key totals, prints the weight, and rezeroes the accumulator. Bit 3 controls printing at zero weight.
- SPC 07 bits 0 and 1 determine the date format.
- SPC 08 bit 3 determines if the code number is printed.
- SPC 13 bit 0 controls displaying and printing weight units.
- SPC 16 bit 0 limits the number of display divisions within zero for printing when SPC 02 bit 3 is YES.
- SPC 17 bit 0 controls repeat printing without the scale returning to zero. Bit 2 controls printing with the scale in motion.

8.2 RS-232C Serial Interface Option

This option allows for data flow out to equipment such as computers, printers, and remote displays. The IQ6000 operates at a fixed rate of 9600 baud with 8 bits, even parity, and one stop bit. For operation with the RS-232C option, set Specification 01 to 0001.

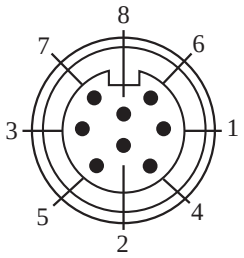
To install the RS-232 option:

Remove option block cover.
Remove screw (1) and internal plate from option block.
Attach RS-232 ground wire (2) to bracket (3).
Attach RS-232 plug (4) to main board under display (5).
Place RS-232 assembly into option block.
Insert screw (1) through assembly and into scale.
Replace option block cover.



The RS-232C option uses an 8-pin connector:

Pin Number	Function
2	GND
5	TXD
6	CTS
7	RTS



8.3 Optional Setpoint Outputs Board

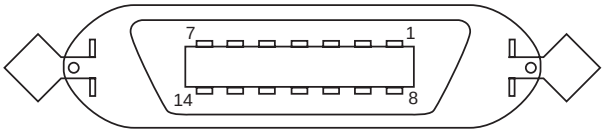
Setpoint outputs are controlled by a high voltage solid state relay board which controls AC devices. The setpoint board mounts in the option block. When the displayed weight value is equal to or greater than the setpoints LO, OK, or HI, the relay contacts will close. See Section 4.3 for instructions on setting setpoints.

Setpoint connector 14-pin configuration:

Pin Number	Function
1, 2	not used
6, 7	SP-1 (LO)
8	Chassis ground
10, 11	SP-2 (OK)
13, 14	SP-3 (HI)
others	not used

Setpoint voltage specifications:

Type	Voltage
Load voltage	30V to 250V AC
Operating frequency	45Hz to 65Hz
Input impedance	180 OHMS
Load current	Min. 50mA
	Max. 2A
Surge current	30A



8.4 Battery Option

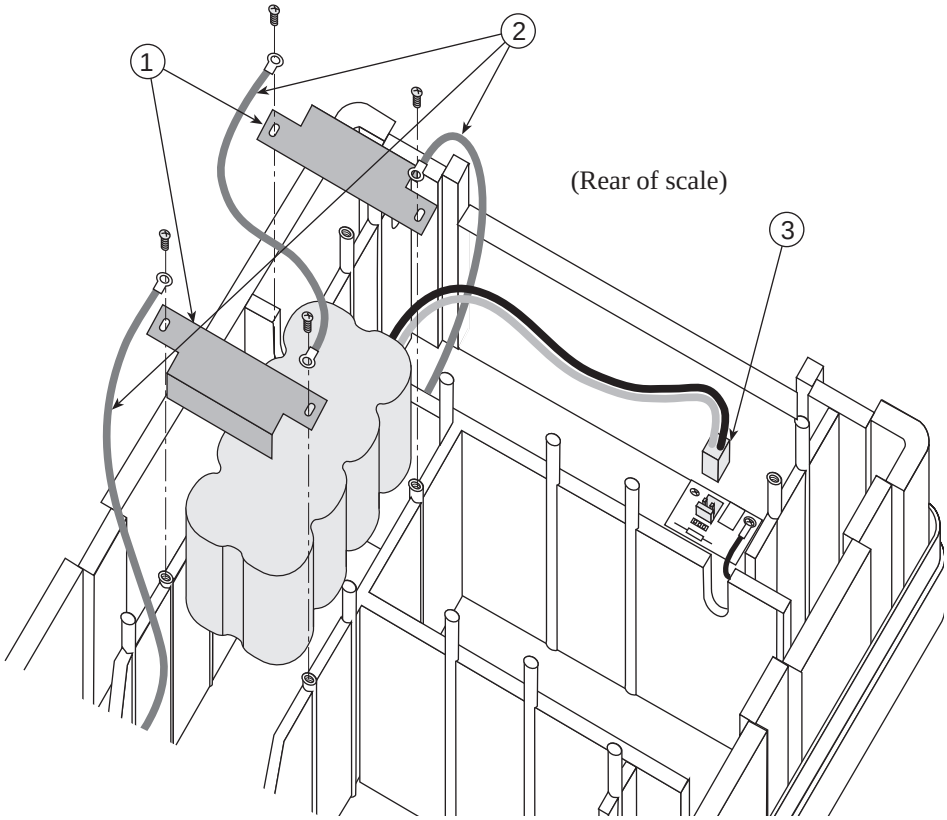
Use the following steps to install the battery:

1. Gently lift and remove platform.
2. Remove four screws at center of platform support. Remove platform support.
3. Remove six screws from top covers (two in keyboard section and four in main).
4. Remove two screws from front underside of scale (one in each corner) and remove main cover.
5. Remove two screws at top of each battery support (1) and remove supports. Note placement of ground wires (2) for reinstallation.
6. Place battery pack in compartment as shown with wires at top of battery towards rear of scale.
7. Replace supports (1) and ground wires (2). Do not allow wires to be pinched under supports.
8. Route wires as shown and plug connector (3) into board TPB-1677.

⚠ Caution

Plugging battery in with connector reversed can cause permanent damage to battery pack and scale.

9. Verify that scale AC/DC adaptor is unplugged. Turn scale on to check battery operation.
    - If scale operates properly, reassemble scale and use accordingly.
    - If scale does not operate, recheck wiring and try again. If scale still does not operate, plug in scale. If scale works with the power cord plugged in, turn scale off, reassemble, and allow battery to charge (12 hours is recommended).
    - If scale does not operate with power cord, disconnect cord and battery and call authorized factory service representative.



9. Maintenance

This section contains information about IQ6000 maintenance. Preventive maintenance consists of periodically cleaning the external surfaces of the scale and should be performed as often as operating conditions warrant.

Warning

Do not attempt any service while the scale is connected to the AC/DC adaptor.

9.1 External Maintenance

The exterior surfaces of the counting scale may be cleaned using soap and water. However, extreme caution should be used so that no water penetrates the electrical or mechanical sections. A damp cloth or sponge is suggested.

Caution

Never use acetone, MEK, or similar solvents on plastic housing as they will etch these surfaces. For grease or other spots, a chlorothane or naptha based cleaner may be used. Never use solvents on front or rear panels.

Accumulations of dust or dirt particles between the pins of the connectors may be removed by using dry forced air or a small dry brush.

9.2 Internal Maintenance

Internal maintenance is not normally required. If required, it should only be attempted by a qualified, authorized service technician. However, you should perform a weighing accuracy test every six to twelve months. The scale's weighing accuracy can be determined by applying known weights to the platform. Because of the scale's very high accuracy, only weights that are certifiably more accurate than the scale's specifications (NIST class "F" or higher) should be used in testing for accuracy. Rice Lake Weighing Systems is a certified manufacturer and accredited testing laboratory for these types of precision weights.

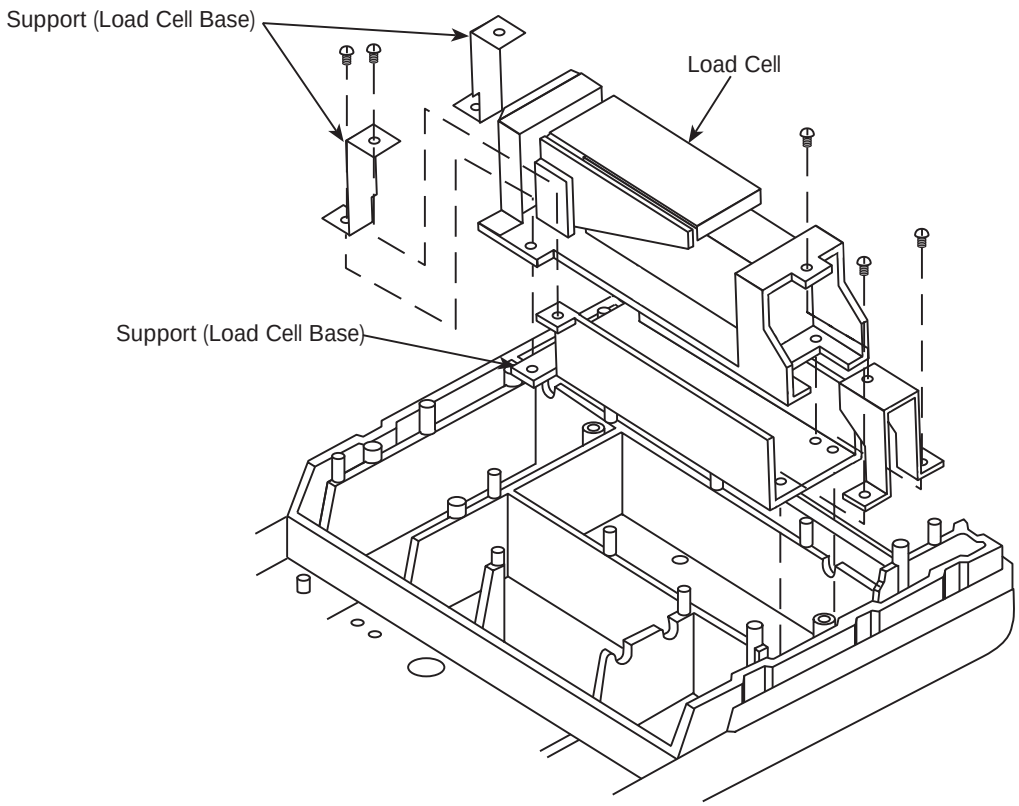
9.3 Service and Repair

Service or repair should be attempted only by qualified personnel when it has been positively determined that the counting scale requires such service. All service should be done in a clean, dry, dust-proof area. See Section 12, *IQ6000 Limited Warranty*, for more information on service and repair.

10. Load Cell Replacement

Use the following steps to replace the load cell:

1. Turn scale off.
2. Remove platter.
3. Remove four spider assembly screws. Remove spider assembly.
4. Remove two bottom (front) and two top (front) screws holding front panel.
5. Slide front panel forward to disengage tabs on cover.
6. Remove plastic cover (4 screws) under spider assembly.
7. Remove ground cables (one screw).
8. Remove 5 hold-down screws from load cell assembly.
9. Lift out mounting assembly.
10. Unsolder load cell wires (color coded guide on board). Overload screws should not need adjustment even if recalibrating to a different capacity.
11. Reverse procedure for reassembly.



11. Specifications

Displays	
Weight	6 digits
Tare	6 digits
Setpoint 1-2-3	6 digits
Totaled weight	6 digits
Display Resolution	1/3,000-1/15,000
Power Supply	AC/DC Adaptor 12 VDC, 1.2 A Rechargeable battery (Ni-Cd, 4AH, 1.2V x 8)
Operating Temperature Range	-10° to 40°C/14° to 104°F
External dimensions	370mm x 420mm x 120mm 14.57" x 16.54" x 4.72"
Net weight	*7 kg/15.44 lb*
Platform Size	14" (W) x 12" (D)

12. IQ6000 Limited Warranty

Rice Lake Weighing Systems (RLWS) warrants that all RLWS equipment and systems properly installed by a Distributor or Original Equipment Manufacturer (OEM) will operate per written specifications as confirmed by the Distributor/OEM and accepted by RLWS. All systems and components are warranted against defects in materials and workmanship for one year.

RLWS warrants that the equipment sold hereunder will conform to the current written specifications authorized by RLWS. RLWS warrants the equipment against faulty workmanship and defective materials. If any equipment fails to conform to these warranties, RLWS will, at its option, repair or replace such goods returned within the warranty period subject to the following conditions:

- Upon discovery by Buyer of such nonconformity, RLWS will be given prompt written notice with a detailed explanation of the alleged deficiencies.
- Individual electronic components returned to RLWS for warranty purposes must be packaged to prevent electrostatic discharge (ESD) damage in shipment. Packaging requirements are listed in a publication, "Protecting Your Components From Static Damage in Shipment," available from RLWS Equipment Return Department.
- Examination of such equipment by RLWS confirms that the nonconformity actually exists, and was not caused by accident, misuse, neglect, alteration, improper installation, improper repair or improper testing; RLWS shall be the sole judge of all alleged non-conformities.
- Such equipment has not been modified, altered, or changed by any person other than RLWS or its duly authorized repair agents.
- RLWS will have a reasonable time to repair or replace the defective equipment. Buyer is responsible for shipping charges both ways.
- In no event will RLWS be responsible for travel time or on-location repairs, including assembly or disassembly of equipment, nor will RLWS be liable for the cost of any repairs made by others.

THESE WARRANTIES EXCLUDE ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WITHOUT LIMITATION WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. NEITHER RLWS NOR DISTRIBUTOR WILL, IN ANY EVENT, BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

RLWS AND BUYER AGREE THAT RLWS'S SOLE AND EXCLUSIVE LIABILITY HEREUNDER IS LIMITED TO REPAIR OR REPLACEMENT OF SUCH GOODS. IN ACCEPTING THIS WARRANTY, THE BUYER WAIVES ANY AND ALL OTHER CLAIMS TO WARRANTY.

SHOULD THE SELLER BE OTHER THAN RLWS, THE BUYER AGREES TO LOOK ONLY TO THE SELLER FOR WARRANTY CLAIMS.

No terms, conditions, understanding, or agreements purporting to modify the terms of this warranty shall have any legal effect unless made in writing and signed by a corporate officer of RLWS and the Buyer.

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IQ6000 Operator's Card

Weighing

Clearing Tare Register

Press **0** or remove all weight from platform. Press **TARE** to clear tare register.

Press **REZERO** to re-zero the scale.

One-Touch Tare Entry

Place empty container on the scale and press **TARE**.

Digital Tare Entry

Enter the desired tare value with the keyboard. Press **TARE**.

Note that the decimal must be entered as it would be displayed. For example, .250 would be entered as “0.250”, not “.250”.

Weight Accumulation

Place a weight on the scale (or enter a value with the keypad). Press the + key to store the weight value in memory.

Remove the first weight. Add a new weight (or enter a value with the keypad) and press the + key to add that value to the total.

To delete a weight from the accumulated total, place the weight on the scale (or key in the quantity to be subtracted) and press the - key.

To view the total, press the ∗ key.

To print the total (on optional installed printer), press the ∗ key again. After printing the total, the accumulator will clear and reset to 0.

Establishing Setpoints

Press **SET**. Key in value for LO setpoint.

Press **SET**. Key in value for OK setpoint.

Press **SET**. Key in value for HI setpoint.

Press **SET** to enter and return to Weighing mode.

Parts Counting

Establishing Average Piece Weight

On the platform:

Place 10 items on scale platform and press **PIECES**.

For greater accuracy place more than 10 items on the platform, key in the number of items, then press **PIECES**.

Into a container on the platform:

Place an empty container onto the platform. Press **TARE** to tare off the weight of the container. Place 10 items in container and press **PIECES**.

Negative Parts Counting

This feature counts parts as you *remove* them from a bulk container on the platform.

Place the container (with parts) on the platform.

Press **REZERO**.

Take a 10-piece sample from the container and press **PIECES**. The Pieces display shows -10.

Remove more parts from the container and watch the Pieces display count up from -10.

Exit Counting Mode

Remove all weight from platform and press **CLEAR**.

RICE LAKE WEIGHING SYSTEMS
Industrial Solutions on a Global Scale®
ISO 9001 REGISTERED