TRANSCELL TECHNOLOGY, INC.

MODEL WB5040-AWP

WIRELESS PORTABLE SCALE

User Manual

Revision 1.1   September 24, 2010

THIS EQUIPMENT CONTAINS NO USER SERVICEABLE COMPONENTS.
- Servicing of the equipment must only be carried out by trained and authorized personnel.
- Use only the AC adapter supplied with the scale. Other adapters may cause damage.

Routine maintenance
- Harsh abrasives, solvents, scouring cleaners and alkaline cleaning solutions should not be used; especially on the display window.
- The outside of the product may be wiped down with a clean cloth, moistened with water containing a small amount of soap.
- The display unit can be washed down with water.

Installation

1. Unpack display unit and both weigh beams
2. Set weigh beams on a flat and level surface. A concrete slab is recommended.
3. The beams feature adjustable feet at each end. This enables side-to-side and front-to-back adjustment when setting up the system.
4. Install cattle chute or temporary platform
5. Install indicator in a suitable viewing area using mounting bracket

NOTES:
- The indicator requires 4-AA batteries
- The weigh beams come with pre-installed "C" cell alkaline batteries
- Do not mix the type of batteries. Replace all batteries at the same time.
- If the scale is not to be used for a long period of time, remove all batteries from the battery compartment to avoid leakage which may cause damage to the instrument.
- To extend the life of your digital scale, do not drop items to be weighed onto the platform or overload the scale beyond its rated capacity. Shock-loading and overloading may damage the load cell and void the warranty.
- Be sure that the feet are not screwed all the way into the bar, as this will result in inaccurate weighing
- Never weld any installation attached to the weigh beams. Damage to the scale's electronics can result
- When placing the weigh beams under a cattle squeeze chute, locate the bars at the far ends (front & back) of the squeeze chute in order to minimize the risk of tipping when animals enter and exit the chute
- Be sure that no equipment or objects prevent downward movement of the weigh beams.
- Be sure that the set up does not rock from corner to corner.

- In certain situations, a squeeze chute may move forward and/or backward when an animal enters or exits the chute. To restrict movement, a section of 1" angle iron may be mounted to the concrete pad in front of the chute and behind the chute. A 1/4" space should be maintained between the weigh bar feet and the angle iron (see illustration below).
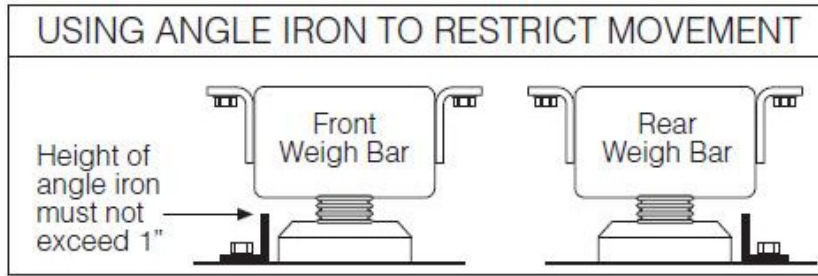
Getting Started

1. After installing the scale per section above, first switch on each weigh beam by pressing the BLUE button once. The blue LED will turn solid for a few seconds and then start to flash.
2. Next press and hold the ON/PRINT key on the display unit for two seconds. After a brief initialization period, the scale will revert to a zero ("0") weight display.

Your wireless scale is now ready for operation!

Operation – weigh beams

Each beam contains two buttons and one LED.
- The BLUE button is used to power up the beams
- The RED button is used to power down the beams

The beams have several operating modes to save battery life and also to alert the user when it's time to replace the batteries. You can determine the operating mode by observing the blinking behavior of the blue LED contained within each beam:

LED Functionality – Blinking interval		
During Power-up (Initialization)	ON for 5 seconds	
FULL BATTERY	Blink interval	
Working Mode	1.5 seconds	
Sleep Mode (power savings)	4 seconds	
LOW BATTERY	Blink interval	
Working Mode	10 seconds	Double Flash
Sleep Mode	10 seconds	Double Flash

Please replace the batteries when the blink interval is 10 seconds!

NOTE 1: Beams will shut down completely after two hours of inactivity.
NOTE: 2: Beams will only enter sleep mode when the indicator (display) is OFF.

When shipped from the factory, the display unit is configured to automatically switch off after 30 minutes if not in use.

<u>Replacing the batteries – weigh beams</u>

Each beam has a battery holder which contains 4 "C" cell alkaline batteries.

1. Turn the bean OFF (Press the RED button)
2. Remove the rubber cover
3. Grasp the metal cylinder inside and carefully pull free from the housing
4. Unscrew either end cap to reveal batteries
5. Exchange the batteries – be careful to note polarity
6. Replace the end cap
7. Slide the metal cylinder back into the metal housing being careful not to crimp or cut the wire

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Keyboard and Display Description

Symbol	**Display**
→0←	Displays when the scale is on Zero.
N	Indicates that the indicator is displaying net weight (Gross weight minus Tare weigh).
G	Indicates that the indicator is displaying gross weight
T	Indicates that a push-button tare weight has been established in the system
lb	Indicates that the unit of the displayed weight is in pounds
kg	Indicates that the unit of the displayed weight is in kilograms
◣◢	This light is on whenever the scale is at rest (stable reading).
🔋	When blinking, indicates that battery life of the indicator has reached its useful end and needs to be replaced soon. More information below

The display unit can show overall system battery health. See the Error Messages for more information.

Function Keys

Units This key toggles the indicator between lb and kg.

Zero/Off This key sets the indicator to display zero weight provided the following conditions are met:
   1. The indicator is displaying Gross weight.
   2. The scale is not in motion.
   3. The scale is not in overload (see error codes).

   Press and hold for five seconds to shut the unit off.

Net/Gross This key toggles the indicator between Gross weight and Net weight - but only if a Tare weight has been established first

Tare This key is used to establish a Tare weight provided the following conditions are met:
   1. The indicator is displaying a Gross weight above zero.
   2. The scale is not in motion.
   3. The scale is not in overload (see error codes).

On/Print Press and hold for two seconds to turn the unit on. When the unit is on, this key is used to send weight information out to the serial port provided the following conditions are met:
   1. The scale is not in motion.
   2. The scale is not in overload (see error codes).

User ("A") Menu

The scale contains a user menu to allow for adjustment of common operational parameters. To access this menu, please follow these directions:

1. Switch off the display unit by pressing and holding down the ZERO/OFF key for about 5 seconds.

2. Enter the User mode by pressing and holding down the ON/PRINT key for about 20 seconds or until the screen shows "F".

3. Press the ON/PRINT (right) key once. The screen displays "A".

4. Scroll down once using the ZERO/OFF (down) key to enter the "User" menu. The scale shows "A01".

5. Move from one "A x" parameter to the next by using the TARE (left) or ON/PRINT (right) keys. For example, to go from A1 to A2, press the ON/PRINT key. To go from A2 back to A1, press the TARE key.

6. Once you have arrived at the proper "A x" menu parameter, e.g. "A01", press the ZERO/OFF (down) key once. The scale displays the current parameter setting.

7. To scroll thru the available parameter settings, use the TARE (left) or ON/PRINT (right) keys.

8. Once the setting you want is displayed on the screen, press the NET/GROSS (set) key to save this value and revert back up to the "A x" level, e.g. "A01".

9. At the "A x" level, press the UNITS (up) key <u>twice</u> (two times) to exit the User Menu. The scale resumes normal operation.

Units key Parameter (A05)

You may enable or disable the UNITS key for normal operation. If the UNITS key is disabled, the user cannot toggle between pounds (lb) and kilograms (kg). Default setting is 1 (enabled).

1. Enter User ("A") Menu as described in a previous section.

2. Use the ON/PRINT (right) key to scroll to "A05".

3. Press the ZERO/OFF (down) key once. The scale displays the current parameter setting.
   "0" means key is disabled
   "1" means key is enabled

4. To adjust this value, use the ON/PRINT (right) key to toggle the selection between "0" and "1". Once the setting you want is displayed, press the NET/GROSS (set) key to save this value and revert back up to the "A05" level.

5. To exit the User ("A") Menu, press the UNITS (up) key <u>twice</u> (two times). The scale resumes normal operation.

Auto Power Off Parameter (A10)

You may configure the automatic power off feature on the display. The display will automatically power itself down after several minutes of inactivity. Activity is defined as a weight change or a key press. Default setting is 30 minutes.

1. Enter User ("A") Menu as described in a previous section.

2. Use the ON/PRINT (right) key to scroll to "A10".

3. Press the ZERO/OFF (down) key once. The scale displays the current parameter setting.
   "0" means display will never shut off by itself
   "1-30" indicates the number of minutes of inactivity

4. One of the digits will be flashing Use the UNITS (up) key to increase the value of the flashing digit. Use the ZERO/OFF (down) key to decrease the value of the flashing digit.

5. To change the position of the flashing digit use the TARE (left) or ON/PRINT (right) keys.

6. Once the setting you want is displayed, press the NET/GROSS (set) key to save this value and revert back up to the "A10" level.

7. To exit the User ("A") Menu, press the UNITS (up) key <u>twice</u> (two times). The scale resumes normal operation.

Hold Mode Parameter (A11)

You may enable one of the three available hold modes. See the Hold Operation section for more details. Default setting is 0 (no hold mode).

1. Enter User ("A") Menu as described in a previous section.

2. Use the ON/PRINT (right) key to scroll to "A11".

3. Press the ZERO/OFF (down) key once. The scale displays the current parameter setting.
   "0" means hold mode is disabled
   "1" means automatic hold model enabled
   "2" means manual hold mode is enabled
   "3" means peak hold mode is enabled

4. To adjust this value, use the ON/PRINT (right) key to toggle the selection among the four settings ("0", "1", "2" and "3"). Once the setting you want is displayed, press the NET/GROSS (set) key to save this value and revert back up to the "A11" level.

5. To exit the User ("A") Menu, press the UNITS (up) key twice (two times). Scale resumes normal operation.

Backlight Brightness Parameter (A12)

You may adjust the brightness of the LCD backlight. Selections are % of full brightness. Default setting is 100% (full brightness). **NOTE**: Display backlight automatically switches off after 20 seconds of inactivity.

1. Enter User ("A") Menu as described in a previous section.

2. Use the ON/PRINT (right) key to scroll to "A12".

3. Press the ZERO/OFF (down) key once. The scale displays the current parameter setting.
   "0" means 0% of full brightness or OFF
   "20" means 20% of full brightness
   "50" means 50% of full brightness
   "75" means 75% of full brightness
   "100" means 100% of full brightness

4. To adjust this value, use the ON/PRINT (right) key to toggle the selection among the five settings ("0", "20", "50, "75" and "100"). Once the setting you want is displayed, press the NET/GROSS (set) key to save this value and revert back up to the "A12" level.

5. To exit the User ("A") Menu, press the UNITS (up) key twice (two times). Scale resumes normal operation.

Buzzer Parameter (A23)

You may enable or disable the beeping sound heard when pressing a key. Default setting is 1 (enabled).

1. Enter User ("A") Menu as described in a previous section.

2. Use the ON/PRINT (right) key to scroll to "A23".

3. Press the ZERO/OFF (down) key once. The scale displays the current parameter setting; one digit will be flashing.
   "0" means buzzer is disabled
   "1" means buzzer is enabled

4. To adjust this value, use the ON/PRINT (right) key to toggle the selection between "0" and "1". Once the setting you want is displayed, press the NET/GROSS (set) key to save this value and revert back up to the "A23" level.

5. To exit the User ("A") Menu, press the UNITS (up) key <u>twice</u> (two times). Scale resumes normal operation.

Hold operation:

Activates the "Hold" mode where weight of the object on the platform is frozen on the display. This is used to capture an unstable load, such as livestock.

There are several specific hold modes, which are selected thru the A11 setting.

AUTOMATIC (A11 = 1) – Automatically locks weight on the display when stable. If the weight of the object on the scale changes by 10% then the sale unlocks the held reading and relocks onto the new weight. This occurs during both increasing and decreasing weight values.

MANUAL (A11 = 2) – Press the NET/GROSS key <u>before</u> applying any weight to the scale. After the load has stabilized, the display will hold the weight reading on the screen until the NET/GROSS key is pressed again. If the weight of the object on the scale changes by 10% then the sale unlocks the held reading and relocks onto the new weight. This occurs during increasing weight values only.

PEAK HOLD (A11 = 3) – The display updates as the load increases but not as the load decreases. The value shown on the screen is the maximum weight applied to the scale. Press the UNITS key to toggle between live mode and peak hold mode. When you exit out of peak hold mode, the old peak value is automatically cleared.
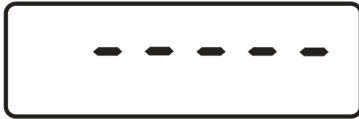
Calibration

Your WB5040-AWP portable scale is ready to use right out of the box. There is no need to calibrate the scale unless you feel that the scale has become inaccurate. It is a good idea to check the calibration of your scale from time to time with a <u>precision</u> test weight.

1. Switch off the display unit by pressing and holding the ZERO/OFF key for about 5 seconds.

2. Enter the Setup mode by pressing and holding the ON/PRINT key for about 20 seconds or until the screen shows "F".

3. Scroll down once using the ZERO/OFF key to enter the "Setup" menu. Scale shows "F 1".

4. While in the Setup mode, scroll to "**F 16**", and then scroll down once using the ZERO/OFF key to enter zero calibration menu. The display will momentarily show "**C 0**" followed by a value. This value is the internal A/D count and can prove useful when trying to troubleshoot setup problems.

5. Remove all items from the beams and press the ZERO/OFF key to zero out the displayed value.

6. Press the NET/GROSS key to save the zero point value. The display will show "**EndC0**" momentarily, and then revert back up to F16.

7. Press the ON/PRINT key to progress to the F17 menu.

8. While at the "**F 17**" screen, scroll down once using the ZERO/OFF key to enter span calibration menu. The display will momentarily show "**C 1**" for the span calibration point, followed by a value with one flashing digit.

9. Place the test weight on the weighing platform.

10. Use the four directional keys to adjust the displayed value to the actual test weight value. Increase the flashing digit by pressing the UNITS key. Decrease the flashing digit by pressing the ZERO/OFF key. Pressing the TARE key or the ON/PRINT key will change the position of the flashing digit.

11. After entering the exact value, press the NET/GROSS key to save the value. If the calibration was successful, the display will show "**EndC1**" momentarily, followed by "**C 2**" for the second calibration point.

12. Repeat steps 8-10 for C2 and C3. At the conclusion of C3, the indicator displays the current gravity settings, e.g. "9.800".

13. Press the NET/GROSS key to revert back up to F17.

14. If the calibration was *not* successful, one of the error messages below will appear. Take the indicated action to correct the problem, and then perform a new calibration.
    - "**Err0**" - The calibration test weight or the keyed-in weight is larger than the full capacity of the scale. Change the calibration test weight or check the input data.
    - "**Err1**" - The calibration test weight or the keyed-in weight is smaller than 1% of the full capacity of the scale. Change the calibration test weight or check the input data.
    - "**Err2**" – There is not enough signal from the load cells to establish a proper calibration. Most commons causes include incorrect load cell wiring, a mechanical obstruction or a faulty (damaged) load cell.

Error Messages

`00000`	Indicates that the weighing capacity of the scale has been exceeded. The weight limit of the WB5040-AWP is 5000 pounds.
`- - - - -`	Indicates that the weight on the scale is negative. Press the **Zero/Off** key.
`ERR BT1`	Beam #1 not found; ensure that beam #1 is powered ON and/or move closer to display unit.
`ERR BT2`	Beam #2 not found; ensure that beam #2 is powered ON and/or move closer to display unit.
`123.4 lb`	Beam #1 batteries have been depleted and need to be replaced.
`123.4 lb`	Beam #2 batteries have been depleted and need to be replaced.
`123.4 lb`	Both Beam #1 and Beam #2 batteries have been depleted and need to be replaced.
`123.4 lb`	Display unit batteries need to be replaced

 Display unit batteries needs to be replaced AND Beam #1 batteries need to be replaced

 Display unit batteries need to be replaced AND Beam #2 batteries need to be replaced

 Display unit batteries need to be replaced AND Beam #1 and Beam #2 batteries need to be re-placed

Specifications

STANDARD CAPACITY
5,000 lb x 1 lb
NOTE: If specified by the purchaser, the scale's capacity and divisions may be different than the standard configuration.

MAIN COMPONENTS
- TS-500 RF digital indicator and AC adapter
- Two 40" weigh beams

BEAM CONSTRUCTION
- Carbon steel tube
- High grade epoxy paint finish

LOAD CELLS
- 350 ohm, two per weigh beam
- Overload protection 200%
- Operating temperature 14°F to 104°F (-10°C to 40°C)
- NTEP approved

Digital Indicator Specifications
- IP54 aluminum/plastic enclosure
- Operating temperature 14°F to 104°F (-10°C to 40°C)
- Connection port for optional printer
- AC adapter included, 9 VDC 500 mA
- Tilt adjustable bracket included

Digital Indicator BATTERY
- 1.5 volt x 4 "AA" alkaline
- User replaceable
- 57+ continuous hours of operation on full charge under typical operating conditions

Weigh Beam BATTERY
- 1.5 volt x 4 "C" alkaline
- User replaceable
- 130+ continuous hours of operation under typical operating conditions

<u>**Troubleshooting**</u>

Issue Recommendations

"Low Battery" icon blinks on the digital readout, then the indicator powers off.
Replace the batteries.

Indicator displays a weight after the animal has left the scale.
Check for mechanical binding in the overall equipment set up, such as restraining chains on squeeze chute, platform rubbing against walls, or similar. Check weighing platform area for build-dup of mud or manure.

Weight reads out lower at one end of the weighing platform/squeeze chute than the other end.
Check for any type of mechanical binding or impingement of the weigh beam that is displaying the lower weight. Check underneath the weigh beam for any obstructions. Make sure that the weigh beam feet are not screwed in so far as to restrict downward movement of the weigh beam.

Indicator displays six small zeros.
Scale is overloaded. Remove weight from scale.

Scale turns off on its own.
The indicator has a power conservation feature, set to automatically power off the scale after 30 minutes of non-use. If your needs require a different setting, call Transcell Tech Support.

Display is erratic.
The batteries may be fully depleted. Try plugging the digital indicator into 110 VAC. Power off the indicator and replace the batteries.

Transcell Tech Support: (847) 419-9180

<u>**Limited 12 month Warranty**</u>

This product is warranted by Transcell Technology against manufacturing defects in material and workmanship under normal use for twelve (12) months from the date of purchase. For complete warranty details and service information, please contact us at the address below.

Contents subject to change without notice.

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