

Wireless Wheelchair Scale

*Model D300 Series
Version 1.0*

Technical Manual



RICE LAKE[®]
WEIGHING SYSTEMS

PN 162740

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Technical training seminars are available through Rice Lake Weighing Systems. Course descriptions and dates can be viewed at www.ricelake.com/training or obtained by calling 715-234-9171 and asking for the training department.

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About This Manual



This manual can be viewed and downloaded from the Rice Lake Weighing Systems website at www.ricelakehealth.com

1.0 Introduction

The D300 Series wireless wheelchair scale provides home healthcare, skilled nursing facilities, and hospital communities with a lightweight, portable and wireless alternative to the critical task of weighing wheelchair bound patients. The wireless wheelchair scale is incredibly easy to set up and operate. The D300 Series comes in two models:

- D300-8 — 800 lb (363 kg capacity)
- D300-12 — 1200 lb (544 kg) capacity

2.0 Safety

There are certain precautions that should be taken to prevent personal injury to the user and damage to the device. Follow instructions for installation and usage. The manufacturer is not responsible for any damage or injury from incorrect operation or manipulation by the user.

If any problem occurs during the operation, turn off the device first and follow the instructions in the manual. If the problem remains, contact Rice Lake Weighing Systems.

2.1 Safety Signals

Safety Signal Definitions:



Indicates a potentially hazardous situation that, if not avoided, could result in serious injury or death.



Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury.



Indicates information about procedures that, if not observed, could result in damage to equipment.

2.2 Safety Precautions

This device is designed and manufactured on the basis of the International Standard for Medical Equipment.



Do not operate or work on this equipment unless you have read and understand the safety information and instructions in the manual. Please follow these instructions carefully. Contact any Rice Lake Weighing Systems dealer for replacement manuals. Proper care is your responsibility.

General Safety



Failure to follow the instructions or heed these warnings could result in serious injury or death.

Inside of the device must be handled only by a qualified trained person. The customers must not touch or handle the inside of this device under any circumstance. It may cause an electric shock or a flame out.

The following precautions must be observed for customer's safety.

- *This device has been adjusted to the optimal performance at the time of factory release.*
- *Do not attempt to modify or adjust any preset controls or switches except those specified in this manual for operation. If any modification is needed, ask the local distributor for service.*
- *If you have any trouble with this device, turn it off immediately and contact your local distributor for assistance.*
- *Avoid the following environments in using or storing this device.*
 - *Where the ambient temperature falls below 50°F or exceeds 95°F (10°C or exceeds 35°C) for use.*
 - *Where the humidity falls below 30% or exceeds 75% for use.*
 - *Where the humidity is over 95% for storage.*
 - *Where this device is exposed to water stream or splashing water.*
 - *Where this device is exposed to dust.*
 - *Where this device is exposed to excessive shock or vibration.*
 - *Where this device is exposed to direct sunlight.*
- *In case of using this device after a long period of non-use, it should be checked carefully before use.*
- *Observe general precautions on using electric devices and the things specified in this manual.*
- *The device must not be cleaned with lubricant or alcohol-based products. Plate electrode and coating can be peeled off. Use a dry cloth or wet tissue.*



In case of mechanical failure, please contact Rice Lake Weighing Systems.

**Important**

This equipment has been tested and found to comply with the limits for medical devices to the IEC 60601-1-2:1994. These limits are designed to provide reasonable protection against harmful interference in a typical medical installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to other devices in the vicinity. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to other devices, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving device.
- Increase the separation between the equipment.
- Connect the equipment into an outlet on a circuit different from that to which the other device(s) are connected.
- Consult the manufacturer or field service technician for help.

2.3 FCC/CE Notice

Controller FCC ID: Y96141511

Scale Pads FCC ID: Y961415100

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference and
2. This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protections against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television receptions, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-orient or relocate the receiving antenna
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or experienced radio/TV technician for help.

**Important**

The user is cautioned that changes and modifications made to the equipment without approval of the manufacturer could void the user's authority to operate the equipment.

For technical assistance, call Rice Lake Weighing Systems at 1-800-472-6703.

3.0 System Setup

3.1 Unpacking the Scale

Visually inspect the D300 Series scale to ensure all components are included and undamaged. Standard hardware includes:

Item Description	Quantity
Scale Pads 	4
Handheld Controller and Rubber Glove for Controller 	1 each
Roll on Mini Ramps 	4
Lanyard 	1
Wheel Stop 	4

Table 3-1. D300 Component Parts

If any parts were damaged in shipment, notify Rice Lake Weighing Systems and the shipper immediately and keep the original packaging material for inspection by the carrier's representative. It is also helpful in the claim process to take pictures of the condition of the packaging and damage.



Note

After unpacking the scale, allow approximately 5-10 minutes for the scale to adjust to room temperature.

3.2 Repacking

If the D300 Series scale must be returned for repair, it must be properly packed with sufficient packing materials. Whenever possible, use the original carton when shipping the scale back.

! **Important** *Damage caused by improper packaging is not covered by the warranty.*

3.3 Hand Held Controller Key Functions

The following section explains the functions of the hand held controller.

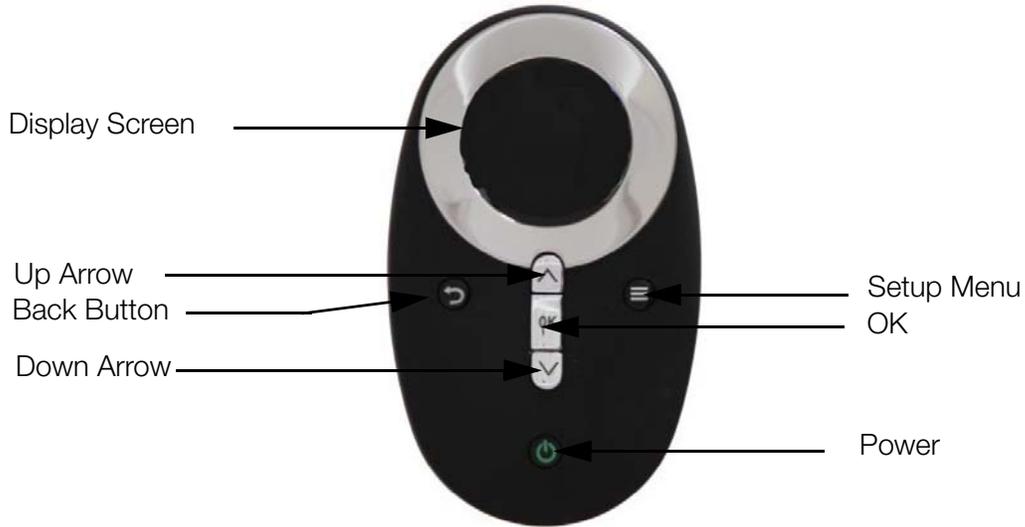


Figure 3-1. Hand Held Controller Key Functions

Key	Function
Up/Down Arrow	Used to toggle to through menu items.
Back	Used to backspace on entries.
Power	Turns the handheld unit on/off.
Setup Menu	This enters into Setup Menu.
OK	Used to accept the value.

Table 3-2. Key Functions

4.0 Using the Scale

The D300 Series wireless wheelchair scale has two different modes available when using the scale.

- Weigh Patient
- Weigh Patient & Chair

4.1 Weigh Patient

This mode is an easy way to get a quick weight reading of a patient. Use the following steps to weigh a patient.



Note

This mode includes the total weight of the patient and the wheelchair.

1. Place each scale pad on a solid, flat surface (tile, cement, hardwood).
2. To power up the controller, press and hold the green power button until the controller turns on (approximately two seconds). The controller will briefly display the company logo and version number, then displays the main menu screen.
3. The scale pads must be zeroed out prior to weighing a patient.
4. Place the wheel stops on the scale pads. The wheel pads have slots that fit onto the scale pad.
5. Press the down arrow key and scroll down until *Zero Out Pads* is highlighted and press *OK*.
6. *Check and remove anything from the scale pads* is displayed. Press *Continue* to continue to initiate the zero out function. When the controller is in process, the screen will go dim for approximately five seconds and while the controller is zeroing out each pad, the scale pad will illuminate green.



Important

*If any of the four pad indicator lights are red or yellow in color, or if the controller indicates **COMM ERROR, TRY AGAIN**, press the up arrow to highlight the **Yes** prompt. Press **OK** and repeat the zeroing out process.*



Note *Make sure to zero out the scale each time the scale is moved.*

7. After the controller completes the process, the display shows *Zeroing Complete* and will verify that all four pad numbers on the controller display are indicated with green circles.
8. The controller will ask *Repeat Zero Out*. If all numbers are circled in green in the controller display, then the display highlights *NO*. Press *OK* and the display returns back to the main menu screen.
9. Place the mini ramps onto the scale pad as shown in Figure 4-1.

Wheel Stop



Figure 4-1. Wheel Stop and Mini Ramp Attached to Scale Pad

10. Roll the wheelchair backwards onto the center of each pad.

11. Set the brakes on the wheelchair and remove mini ramps prior to weighing.



Figure 4-2. Roll Wheelchair up Onto Scale Pads

! **Important** For accurate weighments, mini ramps must be removed prior to weighing a patient.

12. Select *Weigh Patient* from the main menu. The display will show *Acquiring Data*. During this time the display screen will dim for approximately five seconds and the scale pads will be lit green. Patient weight and chair will then be displayed.
13. Press *OK* and the display will return back to the main menu. If there is a problem acquiring data, *COMM ERROR TRY AGAIN* is displayed.
14. Attach mini ramps back onto the scale pads.
15. Remove patient off of scale pads.

4.2 Weigh Patient & Chair

This mode is used for weighing an individual in a wheelchair.



Note This mode includes the weight of the patient without the weight of the wheelchair.

There are two variations that can be done while in this mode:

- Chair
- Patient + Chair

4.2.1 Chair

The user can find the exact weight of the chair or it can be entered manually. When entering into Chair Weight mode, *Chair* will automatically be highlighted. Press *OK* and two menu items appear on the screen.

- Weigh Chair
- Enter Chair Weight

Weigh Chair

Weigh Chair will be highlighted when entering into this parameter.

1. Prior to weighing the wheelchair, place the included wheel stops and mini ramps onto the scale pad as shown in Figure 4-1.
2. Roll the wheelchair backwards onto the center of each pad.
3. Set the brakes on the wheelchair and remove mini ramps prior to weighing.
4. Press *OK* to weigh just the chair. While the controller is in the process of weighing the chair, the display will dim for approximately five seconds and the scale pads will light green. Once complete the chair weight results should be displayed. The display *Save?* is shown. Press *OK* to save that weight and it will be saved until the next use. If the user does not wish to save the chair weight, press the down arrow to highlight *NO* and then press *OK*.



Note Once the hand held controller is turned off, the chair weight is gone.

5. Attach mini ramps back onto the scale pads.
6. Remove wheelchair off of scale pads.

Enter Chair Weight

To manually enter a chair weight, press the down arrow to highlight *Enter Chair Weight*.

Press the up arrow or the down arrow to begin the numbers scrolling in .5 lb increments (press and hold for faster scrolling) until you get to the chairs' correct weight and press *OK*. The controller should read *Is This Correct? Yes* should be highlighted and if the weight is correct, press *OK*. If the weight is not correct, press the down arrow to highlight *NO* and press *OK*. Repeat until correct.

4.2.2 Patient + Chair

Use the down arrow to the highlighted *Patient + Chair*. Use the following steps to find the weight of the patient and the chair.

1. Place each scale pad on a solid, flat surface (tile, cement, hardwood).
2. Place the wheel stops on the scale pads.
3. Press the down arrow key and scroll down until *Zero Out Pads* is highlighted and press *OK*.
4. *Check and remove anything from the scale pads* is displayed. Press *continue* to initiate the zero out function. (when the controller is in process the screen will go dim for approximately five seconds and while the controller is zeroing out each pad, the scale pads will illuminate green.



Important *If any of the four pad indicator lights are red or yellow in color, or if the controller indicates COMM ERROR, TRY AGAIN, press the up arrow to highlight the Yes prompt. Press OK and repeat the zeroing out process.*

5. After the controller completes the process, the display shows *Zeroing Complete* and will verify that all four pad numbers on the controller display are indicated with green circles.
6. The controller will ask *Repeat Zero Out*. If all numbers are circled in green in the controller display, then highlight *NO* and then press *OK* and return back to the main menu screen.
7. Place mini ramps in front of each scale pad making sure the scale pads are placed behind the wheelchair.
8. Roll the wheelchair onto the scale pads, as close to the center of the pad as possible and ensure brakes are on.
9. Remove mini ramps prior to weighing the patient.
10. Press *Patient + Chair* and the display will show *Weighing*. During this time the display screen will dim for approximately five seconds and the scale pads will be lit green. Patient weight will then be displayed. The display *Save?* is shown. Press *Yes* to save that weight and will be saved until the next use. If the user does not wish to save the weight, press the down arrow to highlight *NO* and then press *OK* to return back to the main menu.
11. Attach mini ramps back onto scale pads.
12. Remove wheelchair and patient off of scale pads.

This option is used to add a new patient/record and to monitor existing entries into the patient database. This database can support up to 40 patients and allows the user to monitor weight history for up to 90 readings. To use this parameter use the following steps.

1. Choose *Select Patient/Record* from the main menu and press *OK*.
2. The display shows either *New Patient/Record* or existing patient names if there are any within the database.

4.2.3 New Patient/Record

Up to 40 new patients and records can be added. Select *New Patient/Record* to add another name to the database and press *OK*.

1. *Enter first name* is displayed. Use the up and down arrows, scrolling until all the letters of the patient's first name are entered.
2. Scroll up to *Done* and press *OK* to save the first name.
3. *Enter last name* is displayed. Use the up and down arrows, scrolling until all the letter of the patient's last name are entered.

4. Scroll up to *Done* and press **OK** to save the last name.
5. *Is this correct?* is displayed. Select either *Yes* or *No* and press **OK**.
6. *Add another patient?* is displayed. Select either *Yes* or *No* and press **OK**. By selecting yes, will allow the user to keep selecting more patients. Selecting no will exit out of this screen back to the main menu.

Accessing an Existing Patient

To access a particular patient, scroll down and select the patient.

Various parameters can be accessed with each existing patient. They include:

- Take Weight
- Patient History
- Delete Patient
- Tare

4.3 Options Menu

There are several options available on the D300 Series wireless wheelchair scale. To access those options, press the upper-right display button on the hand held controller.



Figure 4-3. Setup/Options Button Location

4.3.1 Help

This option includes basic written facts to help with setup and ease of use.

- **Getting Started** provides general information on how to get started using the scale.
- **Using Quick Weight** provides a quick weight reading with patient and chair without the ability to save to the patient database.
- **Weighing Patient + Chair** provides a quick weight reading with patient and chair without the ability to save to the patient database.
- **Helpful Hints** gives helpful way to achieve the best results and functionality.

4.3.2 Beep Preference

The D300 Series wireless wheelchair scale system is designed with beep alerts.

The controller is defaulted to *Never*.

Lost Pad Connection can also be selected and will alert the user if there is an error or obstruction preventing clear communication with the scale pads.

4.3.3 Date & Time

This option is for setting the current date and time. Use the following steps to set up date and time.

1. To enter the current year, use the up and down arrows to enter find the current year and press the *OK* button.
2. To enter the current month, use the up and down arrows on the controller to find the current month and press the *OK* button.
3. To enter the current day, use the up and down arrows on the controller to find the current date and press the *OK* button.
4. To enter the current hour, use the up and down arrows on the controller until the correct hour appears then press *OK*.

5. To enter the current minutes, use the up and down arrows on the controller until the correct minute appears, then press *OK*.

4.3.4 Deep Setting

This option is pass code protected for changing functionality in much more detail. The default pass code is (1,2,3,4). Use the up and down arrows on the controller to highlight the first number, and press **OK**. Proceed the same with each number of the pass code until the last number. Use the up and down arrows to highlight the option, *Done* to authenticate that pass code and press **OK**.

If an incorrect pass code is entered, *Invalid Pass code* is displayed. Press **OK** to exit back to the Options screen.

Parameters found within the deep settings mode include:

- Change Pass code
- Database Access
- Weight Change Alert
- Unit Preference
- Pad Weight Display
- Operating Mode
- System ID

Change Pass Code

To change the pass code, repeat the steps from entering a pass code (above), and then confirm the new pass code by repeating the same steps one more time. *Pass code successfully changed* appears and press **OK** to accept the new pass code.

Database Access

This option is used to set up the database access parameters. The three sub-parameters available are:

- Full — which gives the user full access to the patient/record database and it enables the user to add or delete a patient from the records as well as all functionality of the controller set up.
- Restricted — This choice gives limited access to the patient/record database, but the user can view, monitor or add patient data. They will not be able to add a new patient or delete a patient record.
- Disabled — This option hides the patient database completely.

Weight Change Alert

This option allows the user to set up weight alerts if a reading is not within normal parameters. It can be set up in .5 lb increments. Press the up arrow to change the amount of weight allowed before the weight alert sounds off.

Unit Preference

This option allows the user to read weight in either pounds (lb) or kilograms (kg). The default parameter is in pounds but press the down arrow on the controller to change the reading to kg, and then press **OK**.

Pad Weight Display

This option is not available in the wireless bed scale version.

Operating Mode

This option gives the user the ability to switch the controller operation from a wireless bed scale to a wireless wheelchair scale. If switching to the wireless wheelchair scale mode, please see *Wireless Wheelchair Scale D300 Series Operation manual, PN 161817* for further information.

System ID

This option gives the user the ability to change the system ID, to match the scale pads that are being operated.

5.0 Troubleshooting

Use the following troubleshooting tips if the unit isn't working properly.

- When the scale pads are not found by the controller or will not turn on:
 - Check batteries in each scale pad and the controller to ensure proper placement and connection.
- If the weight readings are inconsistent, check the flooring on which the pads are placed. The scale needs to be used on level flooring, such as tile, cement, hardwood and clear of any debris.
- Make sure the mini ramps have been removed prior to weighing.
- If all directions have been followed and are still not getting the desired results, call (800) 472-6703 and ask for technical support.

6.0 D300 Series 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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