
SRScales®

by **SR**® Instruments, Inc.

Model SR775L



Wheelchair Scale System

Operating and Service Manual

Serial Numbers: 1035+

TABLE OF CONTENTS

TABLE OF FIGURES.....	2
PACKING CHECKLIST - SR775L.....	3
ASSEMBLY.....	4
SYSTEM DESCRIPTION AND INTENDED USE.....	5
MAINTENANCE AND CLEANING.....	5
STORAGE AND TRANSPORTATION	6
SPECIFICATIONS.....	7
BUTTON FUNCTIONS	8
BASIC SYSTEM OPERATION.....	9
DISPLAY ERROR CODES.....	10
BATTERY REPLACEMENT	10
THEORY OF OPERATION	11
CALIBRATION.....	12
WARRANTY.....	15

TABLE OF FIGURES

Figure 1: Scale Assembly.....	4
Figure 2: Battery Compartment Cover	4
Figure 3: Button Display	8
Figure 4: Battery Compartment.....	10
Figure 5: Calibration Switch.....	12

PACKING CHECKLIST - SR775L Wheelchair Scale System

√	DESCRIPTION	Qty
	MAST ASSEMBLY	1 ea
	BASE ASSEMBLY	1 ea
	NYLON INSERT LOCK NUTS	4 ea
	PACKAGE OF SIX (6) "D" CELL BATTERIES	6 ea
	QUALITY CONTROL CHECKLIST	1 ea
	CALIBRATION CERTIFICATE	1 ea
	MODEL SR775L MANUAL	1 ea

ASSEMBLY

STEP 1: Unpack the scale system and check parts against the **PACKING CHECKLIST**. If there are any missing or damaged parts, call the local sales representative.

STEP 2: Verify that the serial number on the Display Assembly (1) and the Base Assembly (3) match.

IMPORTANT: All of the scale systems are calibrated at the factory as a complete system. Components should not be interchanged with other systems.

#	PART NAME
1	Display Assembly
2	Mast Assembly
3	Base Assembly
4	Ramps
5	Flat Socket Head Cap Screws (4)
6	Battery Compartment Cover
7	Display Assembly Cable Connector



STEP 3: (Figure 1) Place the Mast Assembly (2) onto the Base Assembly as shown. **Note:** Be sure to put Display Assembly Cable Connector (7) through corresponding hole in Base Assembly.

STEP 4: Insert the four 3/8" Flats Socket Head Cap Screws (5) provided, to attach the Mast Assembly to the Base Assembly.

STEP 5: Gently position the scale system on its side. Loosen the battery compartment cover screws to open the Battery Compartment Cover (6) (Figure 2).

Figure 1: Scale Assembly

STEP 6: Plug the Display Assembly Cable Connector (7) into its mate in the battery compartment.

STEP 7: Insert the six (6) "D" cell batteries following directions on the Battery Compartment Cover. Close and securely screw the Battery Compartment Cover into place.

STEP 8: Gently return scale to an upright, level position on the floor.

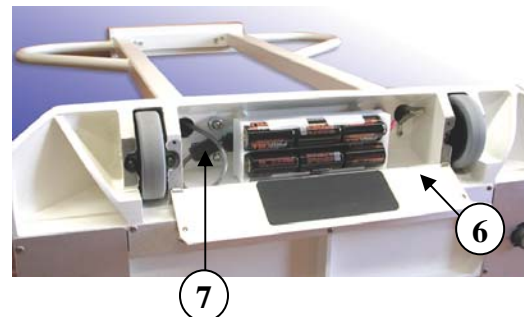


Figure 2: Battery Compartment Cover

SYSTEM DESCRIPTION and INTENDED USE

SYSTEM DESCRIPTION

The SR775L Scale System employs the latest in microprocessor and load cell technology to provide precise and repeatable weight data.

The low power microprocessor circuitry derives its power from batteries that will provide up to 400 hours of weight readings before needing replacement. This eliminates the need for an external battery charger or the danger of a plug-in power supply.

The SR775L also incorporates a keypad tare, which allows the caregiver to preset a pre-determined tare value that can represent the weight of the wheelchair, walker, chair, etc., to be used when weighing the patient. This amount will be automatically subtracted from the gross weight of patient and equipment so only the net weight of the patient will be displayed and stored in memory.

The scale comes equipped with dual side ramps to facilitate access when using wheelchair bound patients. When not in use, or when moving the scale, the dual ramps are folded up and onto the scale surface.

INTENDED USE

The SR775L is designed for use as a portable patient weighing system for ambulatory and non-ambulatory wheelchair bound patients, or those that need to be supported by a chair or walker. Maximum weight capacity must not exceed 1000 pounds or 454 kilograms gross weight.



MAINTENANCE and CLEANING

Exercise caution when cleaning the display window of the SR775L as it is made of clear polyester and can be scratched by abrasive cleaners. It is recommended to use mild soap and water for general cleaning and disinfecting. DO NOT use vinegar to clean the display.



STORAGE and TRANSPORTATION

STORAGE

If storing this equipment for extended periods or longer than three (3) months, remove the batteries. To maintain proper operation of this instrumentation, storage and transport conditions should not vary outside the following conditions: Relative Humidity 0% to 85%, Ambient Temperature -10°C to +50°C.

TRANSPORTATION

To transport the SR775L, tilt the scale back and roll on the built-in wheels to another location. Gently return the scale system to an upright, level position.

SPECIFICATIONS


MAXIMUM WEIGHT CAPACITY	1000 lb or 454 kg
PLATFORM SIZE	28 in x 28 in
DISPLAY TYPE	1 in LCD display screen
DISPLAY RESOLUTION	0.1 lb/0.1 kg
ACCURACY	0.1% +/- 1 digit reading over 200 g
AUTO ZERO	One button operation
KEYPAD TARE	Pre-programmable TARE value to allow patient's net weight to be viewed
AUTOMATIC SHUT OFF	Programmable to (OFF / 60 / 120 / 180) seconds
AVERAGING	Automatic digital filter
POWER SUPPLY	Six (6) "D" cell batteries Low battery indicator on Display
OPERATING CONDITIONS	Normal operating conditions for this product: Ambient Temperature Range: 5°C to 35°C Relative Humidity Range: 0% to 85% (non – condensing) Avoid exposure to high-pressure water or steam.
TRANSPORT and STORAGE	Storage and transport conditions should not vary outside the following conditions: Relative Humidity 0% to 85%, Ambient Temperature -10°C to +50°C. Remove batteries if storing for an extended period of time.

BUTTON FUNCTIONS




Figure 3: Button Display


ZERO

 The “ZERO” button activates scale display and sets the system to zero. When the system is turned on, the display lights all segments on the LCD, shows the software revision level, and the local gravitational constant. Scale will be in GROSS WEIGHT mode and display will zero.


LB/KG MODE

 The “LB/KG” button factory default setting allows user to toggle between viewing data in pounds or kilograms. Alternative options can display “pounds only” or “kilograms only”, deactivating the “LB/KG” button.

WEIGH

 The “WEIGH” button starts the scale and displays the patient’s weight. The display lights all segments on LCD, shows the software revision level, and the local gravitational constant, and starts up in the same mode (NET or GROSS) it was in prior to Automatic Shut Off. Tare data will not be compromised.

HOLD


 The “SET TARE” button stores the weight of object prior to that object and patient being placed together on the scale.

BASIC SYSTEM OPERATION

SETTING SYSTEM ZERO

→0← Before placing anything on the scale, ensure it is level and press the “ZERO” button. When the system starts up, the display will quickly test all segments, indicate the software revision level, and the local gravitational constant. All tare values will be erased and the scale will be in GROSS WEIGHT mode. Display will zero. When both the ZERO and STABILITY DETECTION display symbols are visible, weighing can proceed. Ambulatory patient can walk on the scale and the weight will appear on the display. Non-ambulatory patients should not be placed on the scale until tare is set for any equipment needed by the patient, i.e. wheelchair/chair/walker etc. Refer to **SETTING TARE**.

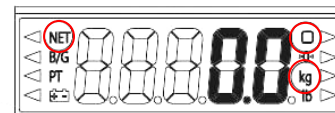
WEIGH

 When the system has been set to zero, the “WEIGH” button can be used after the patient is positioned on the scale. Lock the patient’s wheelchair brake to prevent movement. The display will indicate the patient’s weight. After Automatic Shut Off, simply press the “WEIGH” button to re-activate the scale.



SETTING TARE

Place the empty wheelchair/chair/walker (with any blankets or pillows that the patient may have with them) on the scale platform. Press the “ZERO” button to tare the object’s weight. The display will read “0.0”. Remove the wheelchair from the platform. Place the patient in the wheelchair. Place the wheelchair on the platform. Lock the patient’s wheelchair brake to prevent movement. Press the “WEIGH” button to display the patient’s weight.



When tare is known for an object, the amount can be pre-set via the keypad. Press the “ENTER” button to activate the keypad and display any pre-set tare data residing in memory. Enter the numeric value of the weight of the current tare object. For example, 12.5 kilograms will be entered as 125 (decimal remains fixed).

Press the “ENTER” button again to save the data. The PRE-SET TARE and NET WEIGHT display symbols will light on the display. The pre-set tare value will be indicated as a negative number until the patient is positioned on the scale.

The “CLEAR” button, or an Automatic Shut Off, will cancel the pre-set operation if the “ENTER” button has not already saved tare to memory.

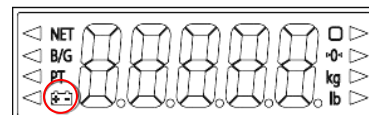
The “WEIGH” button will re-activate the scale after Automatic Shut Off without compromising the tare data.

DISPLAY ERROR CODES

CODE	DEFINITION	RESOLUTION
Err 1	Excessively large or small gravitational constant is stored during calibration	Use a known gravitational constant for the location of the scale.
Err 2	Excessively large or small Full Scale is stored during calibration	Re-calibrate using a known calibrated weight.
LoBat	Battery resource is critically low	Batteries must be replaced.
^ ^ ^ ^	Data input to electronics too high	Remove any weight that may be on the scale, ensure that the scale is level, and re-zero.
v v v v	Data input to electronics too low	Check the Display Assembly Cable Connection

BATTERY REPLACEMENT

STEP 1: When the batteries are low and need to be replaced, the LOW BATTERY display symbol will light up on the display.



STEP 2: Gently position the scale system on its side to access the Battery Compartment.

STEP 3: (Figure 4) Unscrew the two screws holding the Battery Compartment Cover in place.



STEP 4: Open the Cover and remove and replace ALL of the batteries at the same time. Replace with six (6) “D” cell batteries following the instruction on the Battery Compartment Cover.

STEP 5: Check to make sure the display is working correctly by pressing the “ZERO” or “WEIGH” button to activate the display screen.

Figure 4: Battery Compartment

STEP 6: Close the Battery Compartment Cover and securely screw into place.

STEP 7: Gently return the scale to the upright, level position.

THEORY OF OPERATION

SR Instruments patient weighing systems are digital scales. Strain-gauge force cells convert the force of an applied weight into an analog signal. This signal is amplified by an operational amplifier and converted to a digital signal by an analog to digital converter. The digital signal is transferred to a micro-controller where it is filtered, converted to appropriate units, and displayed on a liquid crystal display.

Strain-gauge force cells each contain four strain gauges mounted in a full Wheatstone-bridge configuration. These bridges convert the physical movement of the force cell, due to the applied mass on the system, into minute changes in electrical resistance. These changes in resistance produce a voltage difference across the Wheatstone-bridge. The output of the Wheatstone-bridge is digitized by a sigma-delta analog to digital converter. The data is transferred to the micro-controller.

The micro-controller averages and filters the digital output of the analog to digital converter, subtracts the value saved during the system zero operation, and scales the filtered output and then displays the result on the liquid crystal display. The micro-controller performs a rolling average of data for continuous weigh and then micro-controller averages the data before locking in on the reading. The micro-controller can be placed in a calibration mode, where the system can be re-calibrated. In the calibration mode, the calibration, local gravitational constant, and duration of “on” time can be adjusted. The new factors are stored in non-volatile memory.

CALIBRATION

IMPORTANT

CALIBRATION CHECK – A certified technician should perform this procedure. The load cell and integrated electronics have no user serviceable components and should not be tampered with for any reason. Re-calibration must be performed when the seal is broken. Recommendation for calibration check is at least once every 12 months, or as individual maintenance policy requires.

INITIAL SYSTEM SETUP

When initially set up, calibration is factory set and re-calibration is not needed. The Local Gravitational Acceleration may have to be re-set for the current geographical location. Automatic Shut Off is shipped with a factory default of 60 seconds. If a longer period of time (120 or 180 seconds) is desired, then it will need to be re-set. Both of these procedures are found below.

ACCESS SYSTEM SETUP

Ensure scale is level before proceeding. To access all settings below, break the Calibration Seal and open the right hand end cap. Seal must be replaced by a certified technician. Push the calibration switch right to the “CAL” position (Figure 4) using the eraser end of a pencil or similar item. Display arrow on the top right will light up.

CAUTION

ESD: The integrated circuits and semiconductors on the printed circuit boards may be damaged by electrostatic discharge). Be sure to use proper handling precautions at all times.

SETTING GRAVITATIONAL ACCELERATION

STEP 1: Select number “1” on the numeric keypad. The 2ND display arrow down on the right will light up.

STEP 2: The factory default setting will appear on the display. Using the keypad, enter in the local gravitational acceleration value if desired.

STEP 3: Press the “ENTER” button to save the selection or the “CLEAR” button to exit the menu without saving. The display arrow will return to the 2ND display arrow down on the right.

STEP 4: (Figure 5) Select another menu item, or push the calibration switch left to the “RUN” position to exit CALIBRATION mode.

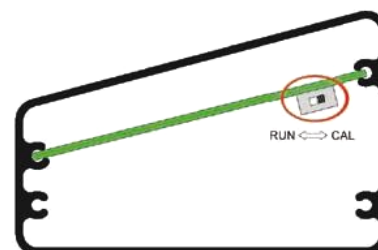
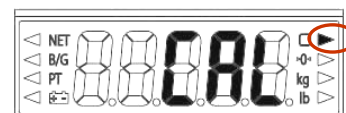


Figure 5: Calibration Switch



CALIBRATION cont'd

CALIBRATION PROCEDURE

Note: Ensure scale is level and make sure that nothing is in contact with the scale during this procedure. Remove hands from scale when noting displayed calibration results.

STEP 1: Press number “2” on the numeric keypad. The 2ND display arrow down on the right will light up. System is now in mode to set Calibration Gravitational Acceleration.



If value is already correct, press the “ENTER” button to save and continue with calibration.

STEP 2: Using the keypad, enter in the local gravitational acceleration value if desired.

STEP 3: Press “ENTER” button to save and continue with calibration. The 4TH display arrow down on the right will light up.

STEP 4: Press “ZERO” button to set the display to zero. The ZERO and STABILITY DETECTION display symbols will light up. At that time, place calibrated weight(s) onto the scale. It is recommended that the full 280 kilograms be used for calibration.



STEP 5: Using the numeric keypad, enter the value of the total calibrated weight placed on the scale.

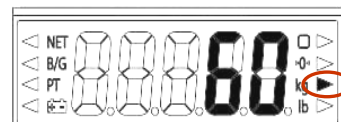


STEP 6: Press the “ENTER” button to save the selection or the “CLEAR” button to exit the menu without saving. The top right display arrow will light up.

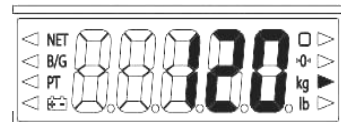
STEP 7: Select another menu item, or push the calibration switch left to the “RUN” position to exit CALIBRATION mode.

AUTOMATIC SHUT OFF TIMER SETTING

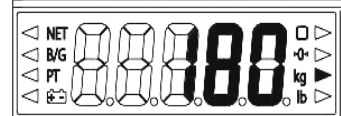
STEP 1: With the calibration switch is in the “CAL” position, select number “3” on the numeric keypad. The 3RD display arrow down on the right will light up.



STEP 2: Repeatedly press number “3” on the numeric keypad to toggle selection for “60” seconds (default), “120” seconds, “180” seconds, or “--” (off).



STEP 3: Press “ENTER” button to save the new value or “CLEAR” button to return to the menu without saving. Default (60 seconds) will remain in effect.



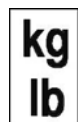
STEP 4: Select another menu item, or push the calibration switch left to the “RUN” position to exit CALIBRATION mode.

Continued next page

DISPLAY UNIT OPTIONS SETTING

STEP 1: With the calibration switch is in the “**CAL**” position, select number “**4**” on the numeric keypad. The 4TH display arrow down on the left will light up.

STEP 2: Repeatedly press number “**4**” on the numeric keypad to toggle unit display selections as follows:



KG/LB (factory default setting). When selected, both display symbols will light up. Weight readings will display in either pounds or kilograms. Pressing the “**kg/lb**” button toggles between display units at any time during the weigh process.



LB only. When selected, the “lb” display symbol will light. Weight readings will display in pounds only. The “**kg/lb**” button is deactivated.



KG only. When selected, the “kg” display symbol will light. Weight readings will display in kilograms only. The “**kg/lb**” button is deactivated.

STEP 3: Press “**ENTER**” button to save the new value or “**CLEAR**” button to return to the menu without saving. Default will remain in effect.

STEP 4: Select another menu item, or push the calibration switch left to the “**RUN**” position to exit CALIBRATION mode.

WARRANTY

FOUR YEAR LIMITED WARRANTY

Each **SR Scales**® system is manufactured with high quality components. SR Instruments, Inc. warrants that all new equipment will be free from defects in material or workmanship, under normal use and service, for a period of four (4) years from the date of purchase by the original purchaser. Normal wear and tear, injury by natural forces, user neglect, and purposeful destruction are not covered by this warranty. Warranty service must be performed by the factory or an authorized repair station. Service provided on equipment returned to the factory or authorized repair station includes labor to replace defective parts. Goods returned must be shipped with transportation and/or broker charges prepaid. SR Instruments, Inc.'s obligation is limited to replacement of parts that have been so returned and are disclosed to SR Instruments, Inc.'s satisfaction to be defective. The provisions of this warranty clause are in lieu of all other warranties, expressed or implied, and of all other obligations or liabilities on SR Instruments, Inc.'s part, and it neither assumes nor authorizes any other person to assume for SR Instruments, Inc. any other liabilities in connection with the sale of said articles. In no event shall SR Instruments, Inc. be liable for any subsequent or special damages. Any misuse, improper installation, or tampering, shall void this warranty.

DAMAGED SHIPMENTS

Title passes to purchaser upon delivery to Transportation Company. Any claims for shortage or damage should be filed with the delivery carrier by purchaser.

RETURN POLICY

All products being returned to SR Instruments, Inc. require a Return Goods Authorization number (RGA). To receive an RGA, call our Technical Service Team at 716-693-5977 or toll-free in the USA and Canada at 800-654-6360.

When inquiry is made, please supply model and serial numbers, purchase order, if the scale was bought on contract, and reason for return.

Generally, deleted, damaged, and outdated merchandise will not be accepted for credit. A minimum restocking charge of 15% will be assessed on return of current merchandise.

All returns are to be shipped **FREIGHT PREPAID** to: SR Instruments, Inc., 600 Young Street, Tonawanda, NY 14150.

RESTOCKING FEE

- **15% fee** for any scale that has been opened and used
- **10% fee** for any scale returned that has been ordered incorrectly or refused delivery with no model change
- **5% fee** if an error in ordering has been made and a different model exchanged
- **No fees** will be charged if the scale is returned because of an error on the part of SR Instruments, Inc.
- **No returns** accepted after 60 days.

SRScales®

By **SR**® Instruments, Inc.

**Precision & Technology in
Perfect Balance™**