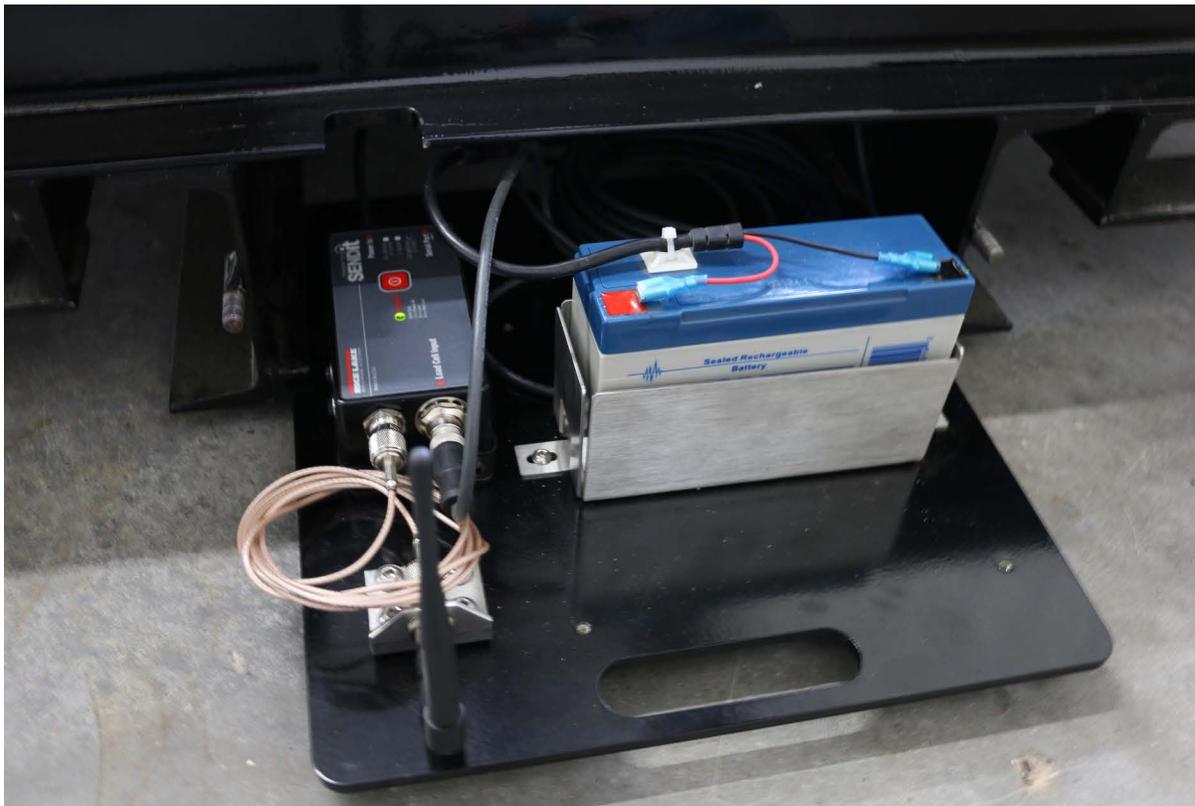


RoughDeck HP SENDit Portability Frames

SENDit Kit Assembly

Installation Manual



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www.ricelake.com

Revision History

This section tracks and describes manual revisions for awareness of major updates.

Revision	Date	Description
A	February 27, 2023	Initial manual release with product launch

Table i. Revision Letter History



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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Rice Lake continually offers web-based video training on a growing selection of product-related topics at no cost. Visit www.ricelake.com/webinars

1.0 Introduction

The SENDit Wireless Load Cell Interface transmitters and receivers are efficient communication devices that replace the need for traditional wire runs. This manual provides the details for SENDit installation, configuration and calibration to the RoughDeck HP Floor Scale.



Manuals and additional resources are available from Rice Lake Weighing Systems at www.ricelake.com/manuals

Warranty information is available at www.ricelake.com/warranties

1.1 Safety

Safety Definitions:



DANGER: Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. Includes hazards that are exposed when guards are removed.



WARNING: Indicates a potentially hazardous situation that, if not avoided, could result in serious injury or death. Includes hazards that are exposed when guards are removed.

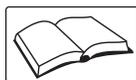


CAUTION: Indicates a potentially hazardous situation that, if not avoided, could result in minor or moderate injury.



IMPORTANT: Indicates information about procedures that, if not observed, could result in damage to equipment or corruption to and loss of data.

General Safety



Do not operate or work on this equipment unless this manual has been read and all instructions are understood. Failure to follow the instructions or heed the warnings could result in injury or death. Contact any Rice Lake Weighing Systems dealer for replacement manuals.



WARNING: Failure to heed could result in serious injury or death.

Do not allow minors (children) or inexperienced persons to operate this unit.

Do not jump on the scale.

Do not use for purposes other than weight taking.

Do not place fingers into slots or possible pinch points.

Do not use any load bearing component that is worn beyond 5% of the original dimension.

Do not use this product if any of the components are cracked.

Do not exceed the rated load limit of the unit.

Do not make alterations or modifications to the unit.

Do not remove or obscure warning labels.

Do not use near water.

Keep hands, feet and loose clothing away from moving parts.

1.2 SENDit Kit Overview

The SENDit kit comes with the 6V battery option kit and 6V battery charger. Other battery charging options are also available for the SENDit kit (Section 1.2.3 on page 7).

1.2.1 Non-NTEP Kit

The non-NTEP kit includes a SENDit transmitter and SENDit receiver. The full kit includes:



Figure 1-1. Non-NTEP SENDit Kit

Item	Description	Part No.
A	Battery Tray	205652
B	Battery 6V SLA w/ Power Jack 7000/7001	162173
C	SENDit Unit Antenna	162178
D	Antenna Bracket Mount	162452
E	SENDit System Pair RF Matched	160312
F	Cordset IP68 M12 4-Pin Male Shielded	164865
G	Cable Assembly, Serial I/O DCE D9 Sockets	150964

Table 1-1. Non-NTEP SENDit Kit Parts



NOTE: The 9-pin cable (Item G) is only needed for the initial SENDit transmitter calibration.

1.2.2 NTEP Kit

The NTEP kit includes a SENDit transmitter and MSI-8004HD receiver. The full kit includes:



Figure 1-2. NTEP SENDit Kit

Item	Description	Part No.
A	Battery Holder Tray	205652
B	Battery 6v Sla W/ Power Jack 7000/7001	162173
C	SENDit Unit Antenna	162178
D	Antenna Bracket Wall	162452
E	8004HD Display AC	210899
F	SENDit Transmitter	160331
G	Cordset IP68 M12 4-Pin Male Shielded	164865
H	Cable Assembly, Serial I/O DCE D9 Sockets	150964

Table 1-2. NTEP SENDit Kit Parts



NOTE: The 9-pin cable is only needed for the initial SENDit transmitter calibration.

1.2.3 Power Connection Options

The SENDit kit comes with the 6V battery option kit and 6V battery charger. Other battery options include:

Part No	Description	Comments
162172	6V Battery Charger	Universal Power, US Plug. Requires changing plug type for international sales.
162173	6V Battery Option Kit	Battery (161679) and interface cable (159817)
162175	Enclosure for 6V SLA Battery	Used for installations where the battery needs to be rigidly mounted.
160109	6V Wall Cube, US Plug	Power Adapter, 12W 6VDC Wall Mount. Universal Input 90-264VAC. 2.1mm Coax Power Plug. US, Canada, Japan
160110	6V Wall Cube, International Plugs	Power Adapter, 18W 6VDC Wall Mount. Universal Input 90-264VAC. 2.1mm Coax Power Plug. Contains blades for international mains. US, UK, Europe, Aus, China

Table 1-3. Power Connection Options

1.3 SENDit Front Panel

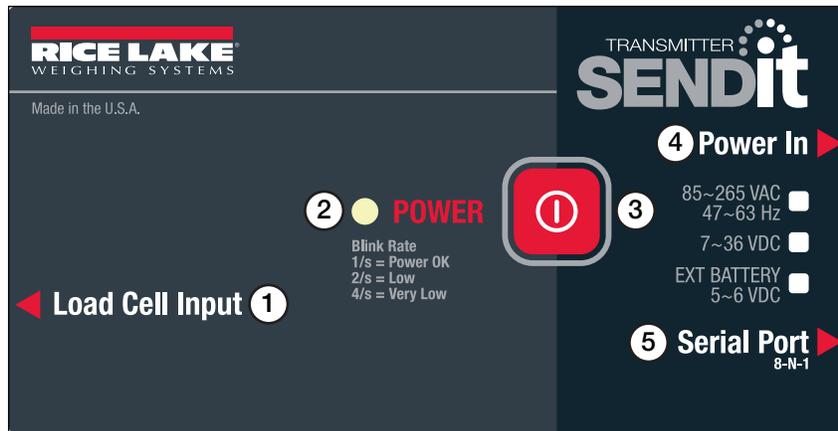


Figure 1-3. Transmitter Front Panel

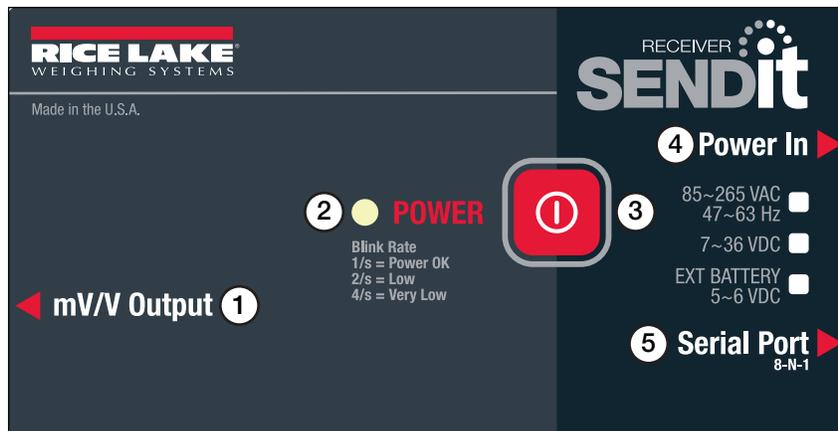


Figure 1-4. Receiver Front Panel

Item No.	Description
1	Load Cell connector (Transmitter) - located on the side of the unit. mV/V Output (Receiver) - located on the side of the unit.
2	Transmitter Power LED – Indicates state of indicator power. Steady short GREEN blinks – good battery (or AC power). Two ORANGE blinks then a pause – low battery. Four ORANGE blinks then a pause – very low battery. Receiver Power LED – Indicates state of indicator power. Steady short blinks – RF connected, good battery (or AC power). Two short blinks then a pause – RF connected, low battery. Four short blinks then a pause – RF connected, very low battery. Steady long blinks – RF disconnected and good battery (or AC power). Long blink, short blink then a pause – RF disconnected and low battery. Long blink, three short blinks – RF disconnected and very low battery.
3	Power Button Press & release – turns unit on Press & hold for one to four seconds – will auto zero Press & hold five seconds – turns unit off
4	Power In Connection – Located on the side of the unit. Type of power source will be checked on the overlay. All SENDit units are currently 5-6 VDC.
5	Serial Port – located on the side of unit.

Table 1-4. Front Panel

1.4 FCC Compliance

United States

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Canada

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la Class A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

1.5 Frequently Asked Questions

Does the battery come out of the portability frame to be charged?

The battery can be removed or left in its holder for charging. Slide the mounting plate out of the portability frame to gain access to the battery and connect the charger.

How long do the batteries last while in use?

Between charges, the battery life should be around 100 hours. It is recommended to charge the battery at the end of every shift, and to keep an extra battery charged and ready to go. If there will be extended periods where the system will not be used, it is recommended the battery be disconnected from the SENDit.

What is the part number for the spare battery?

162173

Will leaving a battery on the charger cause damage?

The charger has a "float" mode, meaning the battery will not be overcharged or damaged.

2.0 Installation

SENDit transmitter and receiver units are factory paired. Take care when unpacking orders of multiple units to keep the paired sets together. In the event a transmitter or receiver must be replaced or the units must be re-paired, contact Rice Lake Weighing Systems and have the Serial Number ready for the transmitter or receiver.

Immediately after unpacking, visually inspect the contents to ensure all components are included and undamaged. If any parts were damaged in shipment, notify Rice Lake Weighing Systems and the shipper immediately.

Ensure the battery is fully charged before installation and use. It is recommended to charge the battery overnight to ensure it is fully charged and ready for use.

Tools Required for Installation:

- Flathead screwdriver
- 3/32 inch hex key wrench
- 1/8 inch hex key wrench
- 5/32 inch hex key wrench
- Blue Thread Lock (Recommended)

2.1 Mounting Plate Layout

The mounting plate holds the contents of the kit in place. When installing, ensure every piece is placed in the correct spot.

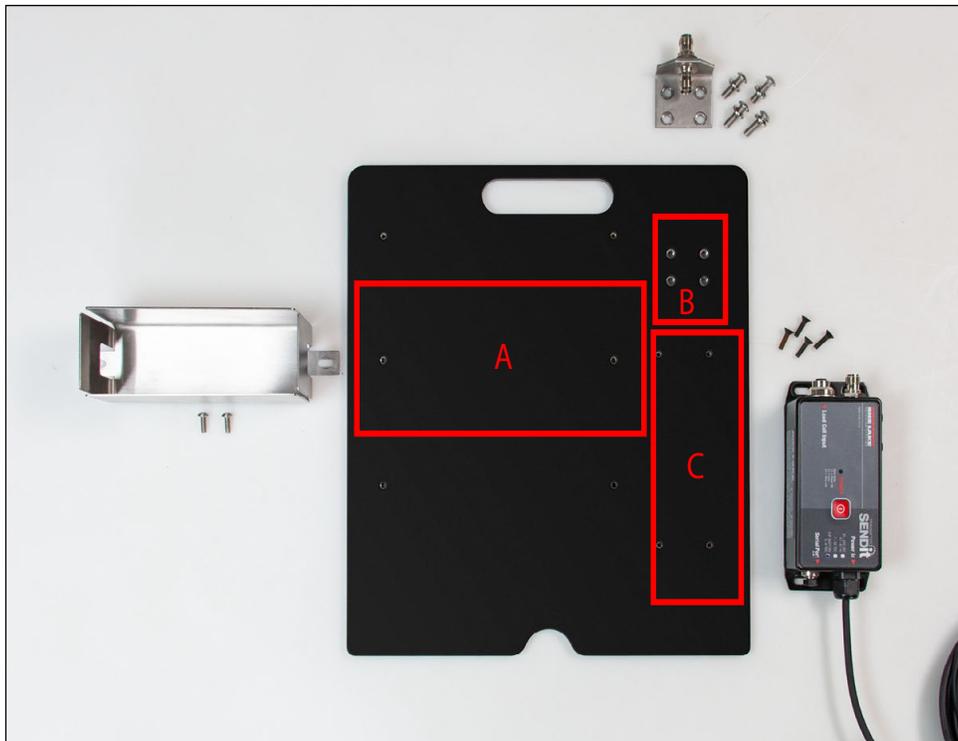


Figure 2-1. Mounting Plate Overview

Location	Description
A	Battery Tray
B	Antenna Bracket Mount
C	SENDit

Table 2-1. SENDit Mounting Kit Location

2.2 Assembly and Wiring

! **IMPORTANT:** A standard antenna and the antenna mount bracket mount are not meant for water-based environments.

2.2.1 Mounting Plate Assembly

1. Set the battery tray in its designated mounting location.
2. Using the 1/8 inch hex key wrench, install the battery tray onto the mounting plate assembly with the provided 1/8 inch screws.

📝 **NOTE:** Blue thread lock is recommended for installing the lock washers on the 1/8 inch screws during the battery tray installation.



Figure 2-2. Battery Tray Installation

3. Set the SENDit Transmitter in its designated mounting location.
4. Using a 3/32 inch hex key wrench, install SENDit Transmitter onto mounting plate assembly using the provided 3/32 inch screws.

📝 **NOTE:** Blue thread lock is recommended for installing the lock washers on the 3/32 inch screws during the SENDit Transmitter installation.



Figure 2-3. SENDit Transmitter Installation

5. Set the antenna bracket mount in its designated mounting location.



NOTE: The vertical side of the antenna bracket mount needs to face away from the SENDit transmitter. As shown in [Figure 2-5](#).

6. Using the 5/32 inch hex key wrench, install antenna bracket mount onto the mounting plate assembly with provided 5/32 inch screws.



NOTE: Blue thread lock is recommended for installing the lock washers on the 5/32 inch screws during the antenna bracket mount installation.



Figure 2-4. Antenna Bracket Mount Installation

7. Install the antenna onto the antenna mounting bracket.

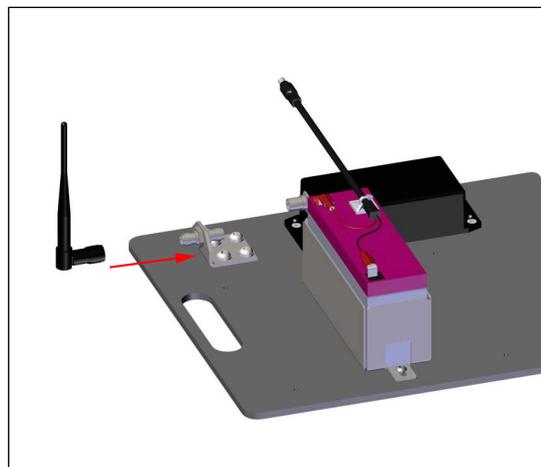


Figure 2-5. Antenna Installation

8. Once the antenna is installed, ensure the antenna is pointed upwards.



NOTE: The direction of the antenna must point upwards at all times in order to obtain a proper signal.

9. Set the battery in the battery tray with cable orientated towards the SENDit Transmitter. See [Figure 2-5](#).



IMPORTANT: When installing the battery, ensure that the battery power cable is facing towards the SENDit Transmitter.

2.2.2 Wire Connections

1. Connect the coaxial antenna wire to the SENDit transmitter and the antenna bracket mount.

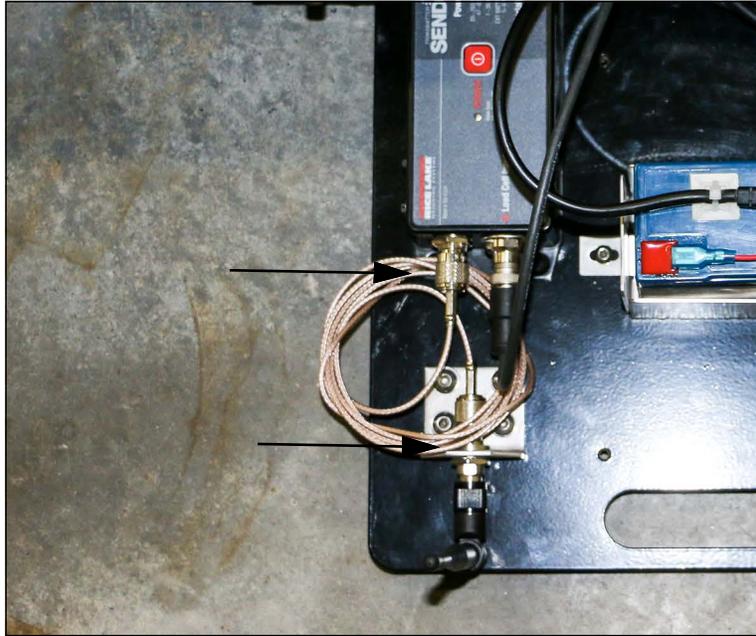


Figure 2-6. Antenna Wiring

2. Connect the Power In wire from the SENDit transmitter to the battery terminal wire. Once connected, the SENDit Transmitter will blink to indicate that it has been connected.

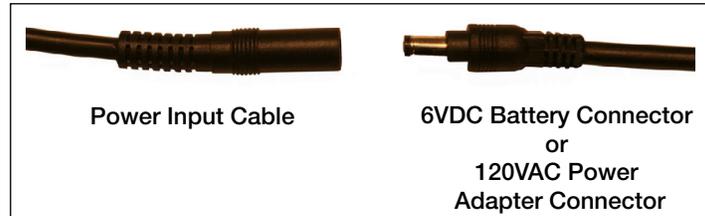


Figure 2-7. Power Input Wiring

3. Wind up all loose wiring and place in a secure location on the mounting plate.



IMPORTANT: All wires must be wound up and placed away from the RoughDeck mounting plate insertion slots to avoid pinching and wire damage.

2.3 Installing the Mounting Plate on the RoughDeck HP Frame



IMPORTANT: The scale must be lifted from a side that is away from the junction box.



WARNING: The RoughDeck HP is heavy and could cause bodily harm if body parts are caught under it when installing. Do not lift the scale while loaded. Ensure that the scale is balanced when lifting.

1. Lift the scale from an acceptable side of the RoughDeck HP Frame. See [Table 2-8](#) for acceptable sides that the scale can be lifted from.

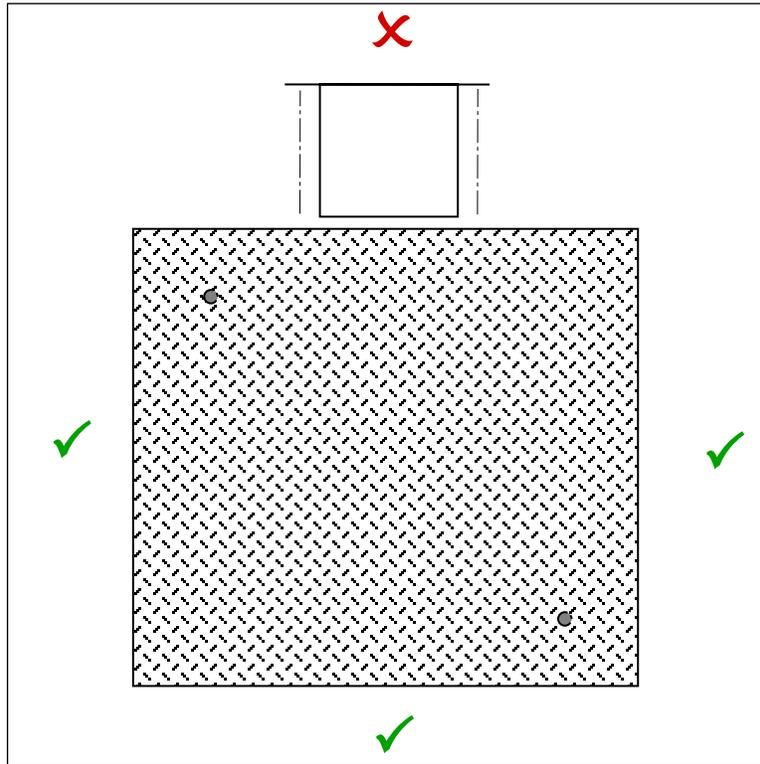


Figure 2-8. Proper Lifting Sides

2. Remove the homerun cable from underneath the scale.
3. Discard the homerun cable as it will not be used for this installation.
4. Lower the scale into the frame.
5. Align the junction box mounting plate on the mounting plate frame. See [Figure 2-10 on page 15](#).
6. Open the junction box face plate.
7. Feed the blunt-end wiring through the junction box slot on the RoughDeck HP frame.
8. Insert the 4-pin load cell cable (PN 164865) through an available strain relief.

- Connect the 4-pin load cell cable to the Load Cell Input connection cable on the SENDit transmitter. See [Table 2-2](#) and [Figure 2-9](#) for wiring information.

SENDit Connector Pin #	Wire Color	Function
1	Brown	+Excitation
2	White	-Excitation
3	Blue	+Signal
4	Black	-Signal

Table 2-2. Load Cell Wiring

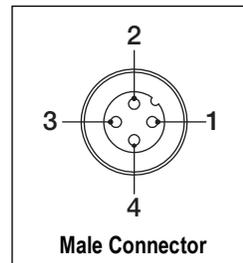


Figure 2-9. SENDit Transmitter Cable Connection

- Close the junction box face plate.
- Slide the mounting plate into the RoughDeck HP Frame.



NOTE: Ensure the antenna is pointed upwards, through the notch in the frame, in order to obtain a proper signal.



Figure 2-10. Mounting Plate Install

- Set the cover plate onto the cover plate bolts.
- Install wing nuts on the baseplate cover. See [Figure 2-11](#).



NOTE: Access to the mounting plate is needed during calibration ([Section 3.0 on page 17](#)).



Figure 2-11. Cover Plate Installation

2.4 Connecting the SENDit Transmitter to the SENDit Receiver (non-NTEP)

1. Connect the SENDit Transmitter to the battery, if not connected previously.
2. Connect the SENDit Receiver to the indicator. See the indicator manual for proper connection information.
3. Power on the SENDit Transmitter on the mounting plate in the frame.
4. Power on the SENDit Receiver.

The SENDit transmitter and the SENDit receiver should automatically pair together. If they do not pair, contact Rice Lake Weighing Systems for assistance.

When the SENDit Transmitter is on and connected, it should show steady, green blinks to indicate that the RF is connected and there is a good battery charge. If the LED flashes are different than the steady, green blinks, see [Section 1.3 on page 8](#) for more information.

2.5 Connecting the SENDit Transmitter to the MSI-8004HD Receiver (NTEP)

1. Connect the SENDit Transmitter to the battery, if not connected previously.
2. Power on the SENDit Transmitter on the mounting plate in the frame.
3. Power on the MSI-8004HD Receiver.

The SENDit transmitter and the MSI-8004HD should automatically pair together. If they do not pair, contact Rice Lake Weighing Systems for assistance.

When the SENDit Transmitter is on and connected, it should show steady, green blinks to indicate that the RF is connected and there is a good battery charge. If the LED flashes are different than the steady, green blinks, see [Section 1.3 on page 8](#) for more information.

3.0 Calibration

3.1 Initial Calibration with the SENDit Transmitter and SENDit Receiver (Non-NTEP)

1. Power on the SENDit transmitter and the SENDit receiver.
2. Using the 9-pin serial cable, connect the transmitter to a computer. This allows setup with the *MSI TranSend mV/ SENDit Scale Calibration* program.

3.2 Calibration with SENDit Transmitter and SENDit Receiver

Use the following instructions to calibrate the SENDit receiver unit. The *MSI mV Scale Calibration* software can be downloaded from the Rice Lake Weighing Systems website.

1. Power on the transmitter and receiver units.
2. On the connected computer, navigate to the *MSI mV Scale Calibration* program.
3. Double click  **MSI mV Scale Calibration.exe**.
4. Select **Calibration** from the drop-down menu.

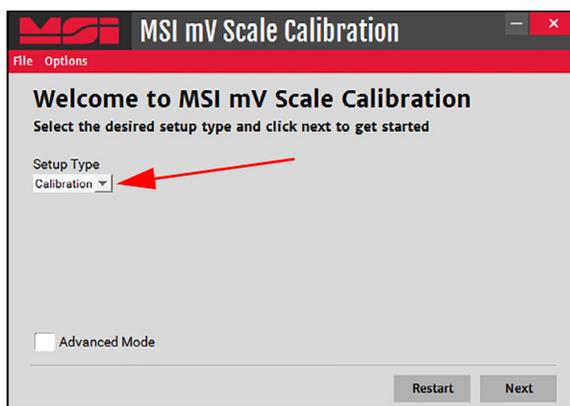
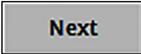


Figure 3-1. Calibration

5. Press .

6. Select the COM port the SENDit receiver is connected to from the drop-down menu.



NOTE: If no COM port selection is available, ensure the serial cables are properly connected, the drivers are installed properly and that the SENDit Pair is powered up. Once an acceptable connection has been made, restart the Calibration program.

NOTE: The drivers are for USB-to-Serial conversion that can be used to connect the computer to the scale. If the PC won't connect to the scale, go to the USB-to-Serial converter manufacturer's website to update the drivers.

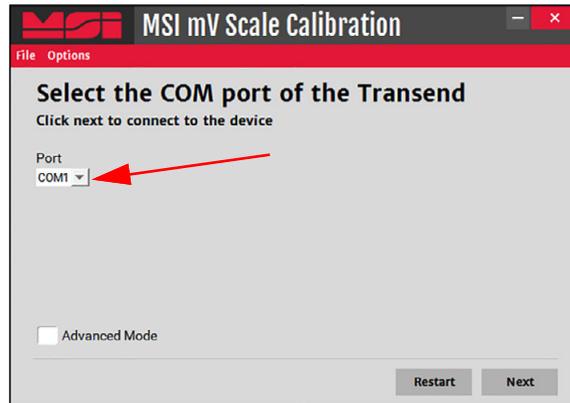


Figure 3-2. COM Port Selection

7. Check the **Advanced Mode** dialogue box to change the upper and lower range percent detected by the SENDit system, if necessary.

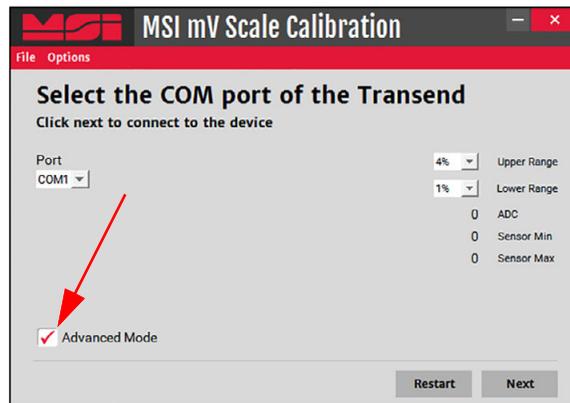
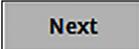


Figure 3-3. Advanced Mode

8. Press .

9. Enter the total scale capacity.

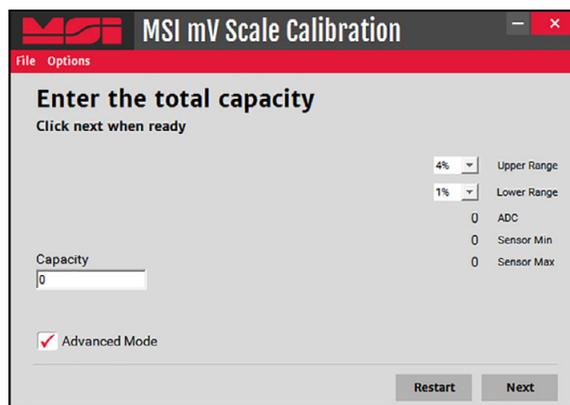


Figure 3-4. Scale Capacity

10. Press .
11. Ensure all weight is removed from the scale.



Figure 3-5. Zero Calibration

12. When scale is stable, press .

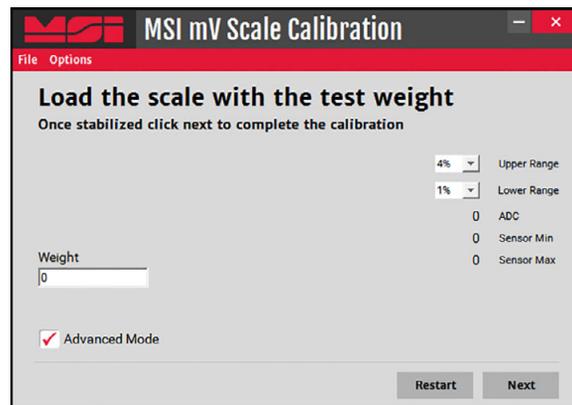


Figure 3-6. Span Calibration

13. Load test weights onto the scale.
14. Enter the test weight total value in the weight dialogue box.
15. Press . **Calibration Complete** displays.

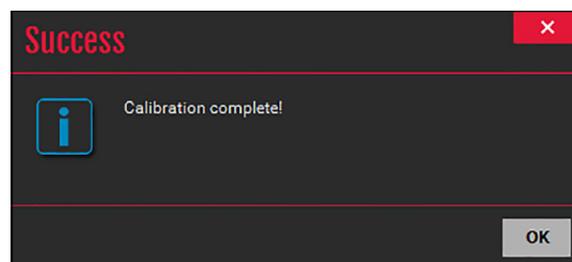


Figure 3-7. Calibration Complete

16. Press to return to the calibration start display.

3.3 Initial Calibration with the SENDit Transmitter (NTEP)

The NTEP SENDit connects to an MSI-8004HD.

1. Power on the SENDit transmitter and MSI-8004HD.
2. Using the 9-pin serial cable, connect the transmitter to a computer. This allows setup with the *MSI TranSend mV/SENDit Scale Calibration* program.

3.4 Calibration with SENDit Transmitter and MSI-8004HD (NTEP)



NOTE: It is required that the weight used is at least 10% of full capacity in order to achieve rated accuracy.

If the unit has been sealed and standard is set to $Hb-44$ or $r-75$, the setup menu is not available. To calibrate, the **CAL** button must be pressed.

3.4.1 Initial Receiver Calibration

Initial calibration is used to setup units, capacity and resolution (d) required for the load cell or after a calibration reset.

Set an F-key and press the programmed **F-Key** to scroll to the load cell to be calibrated.

1. Press  to select the load cell to be calibrated.
2. Press  and  simultaneously. $\square RL$ displays.
3. Press . $\square n L$ displays.
4. Press . The default units display.
5. Press  to scroll through the available units.
6. With desired unit displayed, press  to select. $\square RP$ is displayed.
7. Press . The default capacity is displayed.
8. To enter a different capacity, press .
9. Press  to scroll through numbers and  to save the selected number and move to next digit.
10. When correct capacity is displayed, press  to store the value. $\square d$ displays.
11. Press . The default display divisions are displayed.
12. Press  to scroll through the available display divisions.
13. With desired display division displayed, press  to select. $\square n L d$ displays.

Proceed with the routine calibration, starting with [Step 2 on page 21](#).

3.4.2 Routine Calibration

For maintenance and routine calibration use the following steps:

1. Press  and  simultaneously. \overline{CAL} displays.
2. Press . \overline{LOAD} displays.
3. Remove all weight from the scale.
4. Press . \square flashes.
5. Press . $PASS$ displays momentarily then $\overline{LOAD 1}$ displays.
6. Load the scale with a precision test weight; for best accuracy a test weight of 10% of capacity or more is recommended.
7. Press . Capacity of the scale flashes.
8. To enter a test weight other than the capacity, press .
9. Press  to scroll through numbers and  to save the selected number and move to next digit.
10. When the correct weight is displayed, press  to store the value. If Cal value is within limits, $PASS$ displays momentarily, then $\overline{LOAD 2}$ displays.
11. Press  to enter the second load.
12. Add load to scale and press .
13. Press . The current weight on the scale flashes.
14. Repeat [Step 3–Step 10](#) for up to four loads.
15. When all loads are complete, press  to store the calibrations. $\overline{CAL'}$ displays.
16. Press  to view the cal number. \overline{CAL} flashes momentarily followed by the value. Record the \overline{CAL} value, it is required when performing a \overline{CAL} calibration.
17. Press . $SETUP$ displays momentarily, then $SETUP$ displays.
18. Press  to exit calibration. $SETUP$ displays momentarily, then the unit returns to weigh mode.

Repeat this procedure to calibrate all scales that are connected to the MSI-8004HD remote display.



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