

SEATLINK

Seat Information Tracking System

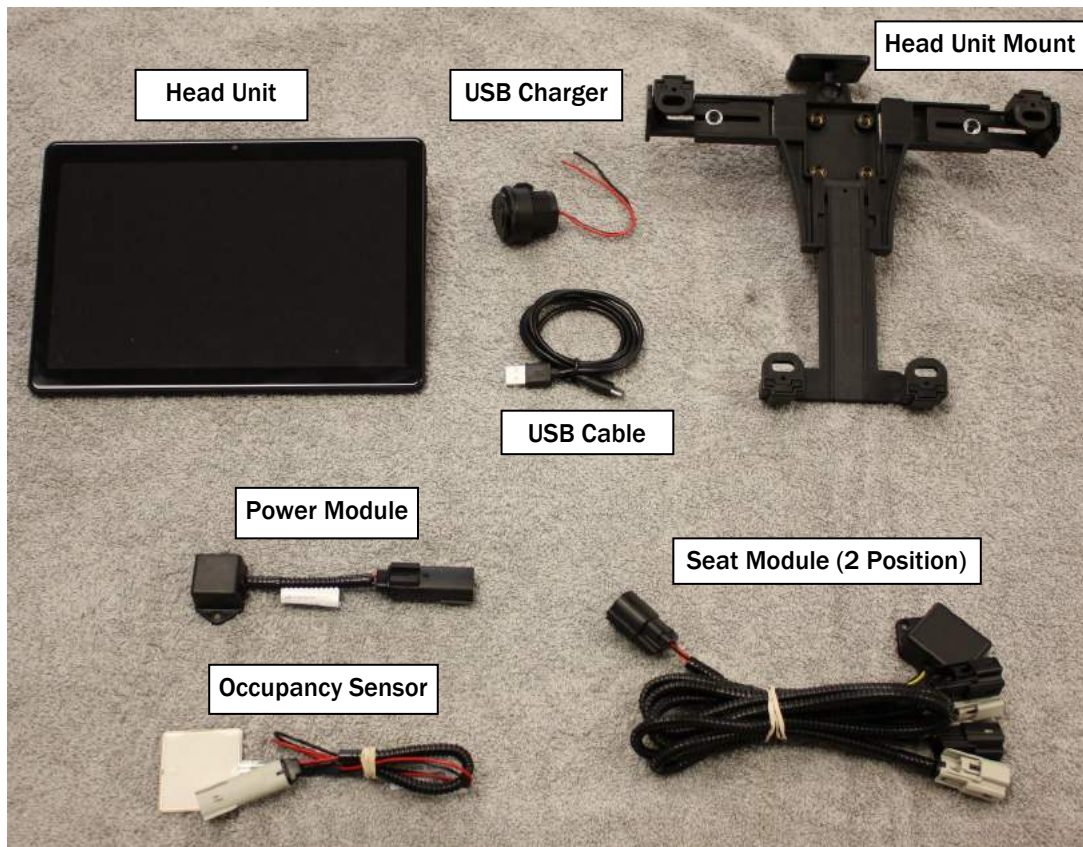
Contact Freedman Seating for applications

System Overview

The SeatLink Seat Information Tracking System was designed exclusively for Freedman Seating, powered by InterMotive technology. detects and displays occupancy and belt buckle status of all seating positions in a vehicle. The system includes a head unit mounted in the front of the vehicle and wireless seat sensing modules at each row of seats. When the ignition key is in the run position the seat sensing modules will report seat occupancy and belt status to the head unit. The head unit will display the real time seat data on a graphical representation of the bus seating layout. The status of each seat is conveyed by changing each seat's color. In addition to displaying seat status, the head unit records the seat data for future reference or transmittal.

System Components

- Head Unit
- Seat Modules (1, 2 or 3 seating position modules available)
- Optional power modules (seat modules may also be powered by +12V vehicle battery)
- Seat Occupancy Sensor (1 per seat)
- Seat Belt Sensor (1 per seat, not pictured)



Setup & Pairing Instructions

Disconnect vehicle battery before proceeding with the setup.

IMPORTANT – READ BEFORE INSTALLATION

It is the installer's responsibility to route and secure all wiring harnesses where they cannot be damaged by sharp objects, mechanical moving parts and high heat sources. Failure to do so could result in damage to the system or vehicle and create possible safety concerns for the operator and passengers.

Avoid placing the module where it could encounter strong magnetic fields from high current cabling connected to motors, solenoids, etc. Avoid radio frequency energy from antennas or inverters next to the module. Avoid high voltage spikes in vehicle wiring by always using diode clamped relays and solenoids when installing upfitter circuits.

SeatLink™ Head Unit

Find a suitable location to mount the head unit. The head unit should be visible by the driver during vehicle operation. Locate the head unit in an area away from any high heat sources (engine heat, heater ducts, etc.). Do not actually mount the head unit until all wire harnesses are routed and secure. The last step of the installation is to mount the head unit.

Head Unit Mount

1. Attach the metal mounting base to a flat surface with 4 screws (not included).
2. Attach the head unit holder to the mounting base using four included screws.
3. Loosen adjustment knob with included hex key to reposition holder and retighten when finished.
4. Use Phillips head screw driver to adjust sides of holder to fit tablet.
5. Cut included 1/4" foam in half, remove adhesive, and place on both sides of holder that come in contact with head unit. This will also allow the charging cable to plug into head unit when mounted.
6. Insert key into back lock and turn right to unlock. Pull up on top adjusting arm to fit head unit.
7. Insert tablet into holder and adjust side and top arms as needed.
8. Push button in on back lock to secure head unit.

Setup & Pairing Instructions (continued)

USB Device Charger

1. The included panel mount USB device charger should be located near the base of the head unit mount.
2. Make sure there is ample space behind the panel at the desired mount location.
3. Drill a 1 1/8" hole.
4. Install the charger into the drilled hole with the supplied plastic nut.
5. Solder and heat shrink chassis ground to the black input wire and +12V ignition signal to the red input wire.
6. Attach charging USB cable between head unit and charger.



SeatLink™ Seat Module

Each Seating Position will have 1 occupancy sensor and 1 belt sensor. Seat modules are installed at the end of each row of seats.

Power the Seat Module

Either connect a power module to the seat module or wire +12V ignition hot signal from the vehicle to the seat module. Use part # 0334810301 (Molex MX150 Series) for +12V connection. Pin 2 is +12V and pin 3 is ground.

Seat Module Locations

Ensure all harnesses are properly connected, routed, and secured. Mount the seat module and secure using screws or double sided tape.

Reconnect the vehicle battery

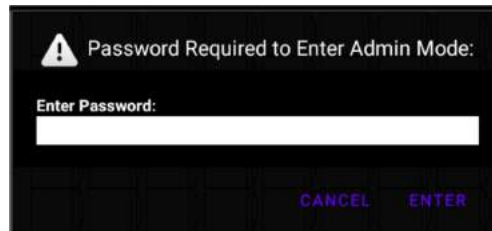
System Setup

Entering Admin Mode

To access any of the head unit system settings or the SeatLink setup menu, the head unit must be in Admin Mode.

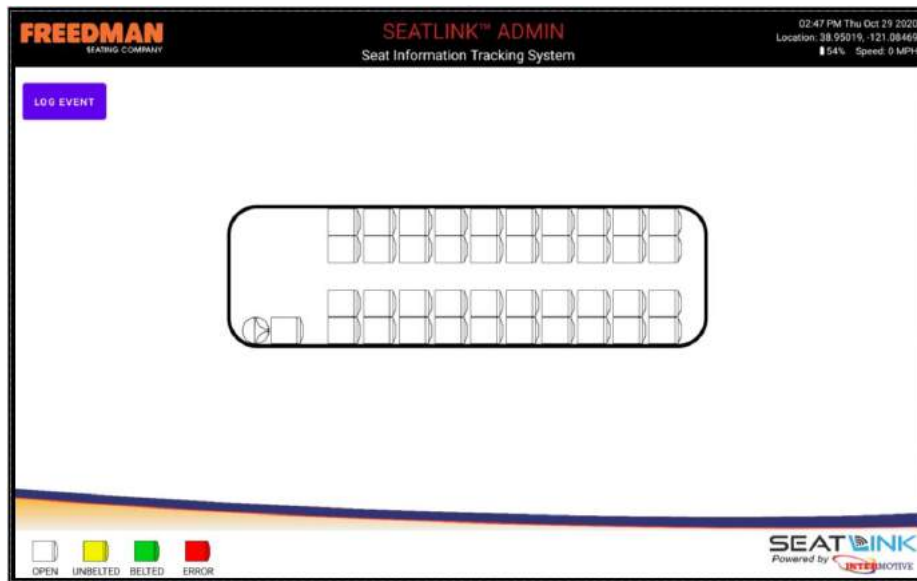
Follow these steps to enter Admin Mode.

1. Tap just outside of the seating layout 7 times and the following prompt will appear:



2. Enter the default password "SeatLink!1234" to enter Admin Mode.

Note: If the default password has been changed and has been forgotten contact Freedman Seating to reset.



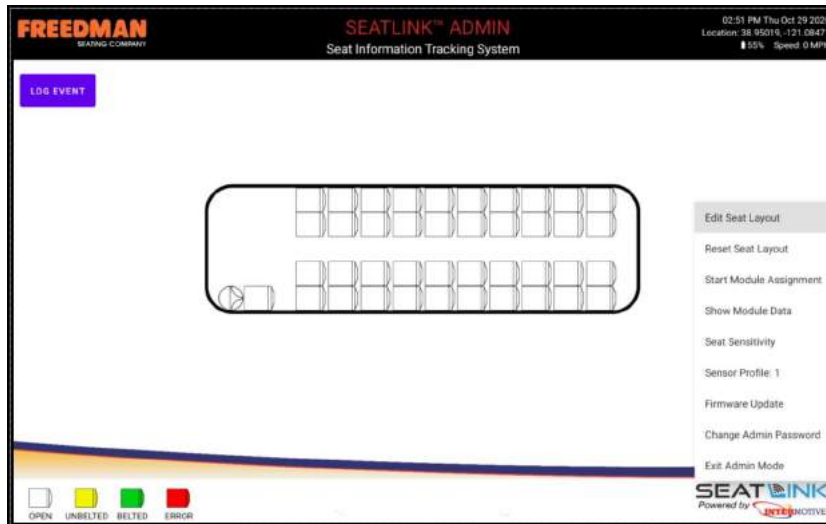
3. Once setup is completed make sure to exit Admin Mode to restrict access to all settings. Select "Exit Admin Mode" from the SeatLink setup menu.

System Setup

Step 1: Modifying Seating Layout

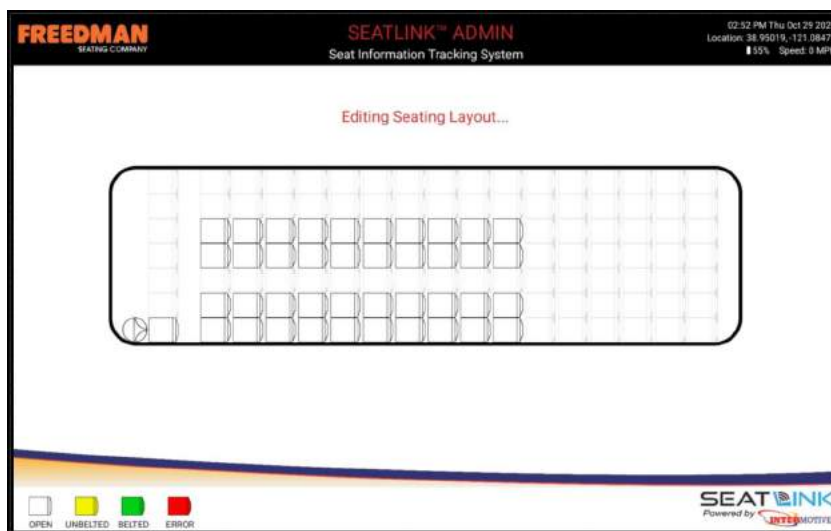
The seating layout will need to be modified to match the application vehicle. The following step by step instructions will guide you through this process.

1. Press and hold the SeatLink Logo in the lower right of the head unit display until the setup menu appears.
2. Select “Edit Seat Layout” from the menu.



3. Touch any seat to add or remove it from the layout. A seat will appear opaque when in the layout and translucent when removed.

Tip: Drag your finger across the screen to add or remove multiple seats with a single gesture.










4. When finished open the setup menu again and select “Set Seat Layout.”

System Setup (continued)

Step 2: Linking Seat Modules

The following process will form a link between the seat modules and the head unit in a vehicle. All seat positions will be assigned to the seat modules.

IMPORTANT: Make sure all seats on the vehicle are unoccupied and all belts are unbuckled before beginning this process. In addition, if there are nearby seat modules not associated with the target vehicle that are not linked to a head unit do not activate the belt buckle inputs on those modules during this process. This could cause an unintended link between those modules and the head unit on the target vehicle. If this has occurred, see SeatLink Diagnostics for the Seat Module Delete Bond pat and rub procedure.

1. Press and hold the SeatLink Logo in the lower right of the head unit display until the setup menu appears.
2. Select "Start Module Assignment" from the menu.
3. Follow the prompts on the head unit to link all seat modules to the head unit and assign the seat positions. When an activated sensor is detected a large green check mark will appear over the bus layout.
 - A. Buckle the belt on the indicated seat.
 - B. If the module is not yet linked to the the link to complete. This could take  up to 5 seconds. If it takes longer than this cycle belt buckle to re-attempt the link process.
 - C. When the large green check mark appears release the belt buckle to continue.
 - D. Activate the occupancy sensor on  the indicated seat.
 - E. When the large green check mark  appears  release the occupancy sensor to continue.
 - F. Repeat steps 3A through 3E for  all seating  positions on the vehicle.
4. When the final seat in the layout is  assigned the process will automatically end. To end the process at any time press and hold the SeatLink Logo and select "End Module Assignment" from the menu.

TIP: Tap any seat during the module assignment process to jump to that seat for assignment.

System Setup (continued)

Step 3: Adjusting Occupancy Sensor Profile and Threshold (Optional)

The SeatLink occupancy sensors can be tuned to a given seating application. The seat occupancy profile and sensitivity settings together determine how sensitive the system is to the force applied to the seats.

1. Press and hold the SeatLink Logo in the lower right of the head unit display until the setup menu appears.
2. Select "Sensor Profile: x" from the menu to cycle through profiles 1 through 3. Profile 1 is the least sensitive and profile 3 is the most sensitive.
3. After selecting a profile press and hold the SeatLink logo again to open the setup menu.
4. Select "Seat Sensitivity" from the menu to display the seat sensitivity slider.
5. Drag the seat icon along the slider to select a sensitivity level from 0 to 10. Setting 0 is the least sensitive and 10 is the most sensitive.
6. Press and hold the SeatLink logo to display the menu.
7. Select "Seat Sensitivity" again to hide the seat sensitivity slider.

Setup Complete.

At this point the SeatLink system should be fully setup. The seating layout on the display should match the physical seating layout of the target vehicle. All seat modules have been linked to the head unit and every input has been tested.

Battery & Module Replacement

- If performing replacement on Go-ES Seat, remove cushion to access hardware.
- If 3PTA Family seat, remove upper seat frame from mounting legs using 3 bolts on each leg. When finished, reinstall leg bolts with a torque value of 55–60 ft-lbs.

If a seat battery needs replacement, follow these steps:

1. Disconnect battery from SeatLink harness beneath seat.
2. Once disconnected, unscrew the battery using a Phillips head screwdriver and 9mm wrench where necessary, and remove from mounting position.
3. Attach new battery to mounting position with existing hardware and same tools.
4. Reconnect battery to harness and check seat function on Headunit.

If an entire seat module needs replacement, follow these steps:

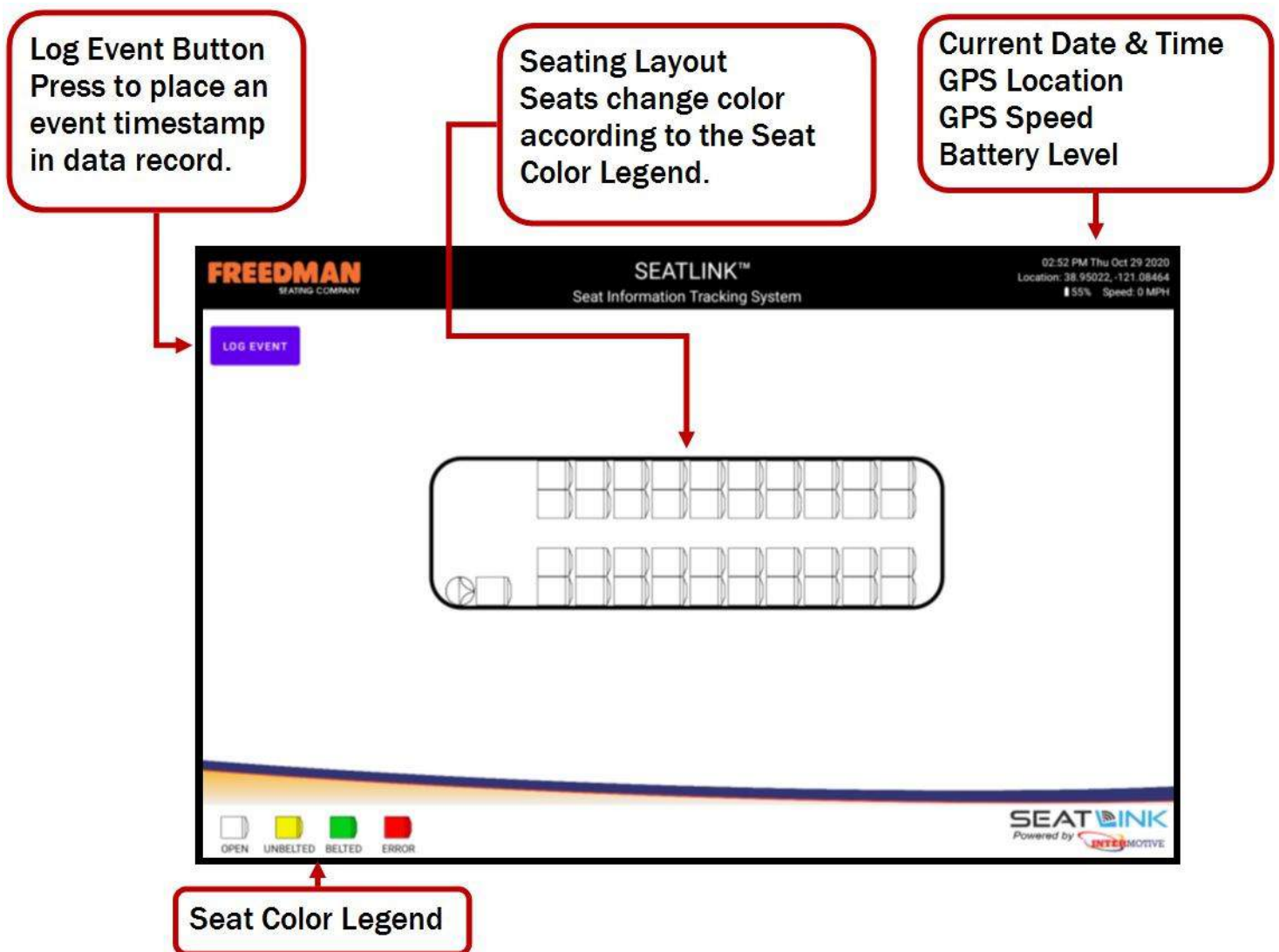
1. Disconnect all external module harness connections. (Buckle, Sensor, and Battery)
2. Once disconnected, unscrew the module box and remove from mounting position using tools listed above.
3. Attach new module to mounting position with existing screws and reconnect to other components.
4. Re-pair seat module to head unit using pairing instructions on page 6.
5. Ensure proper seat sensor and buckle function for each seating position before completing replacement.

Operating Instructions

Description of Operation

The SeatLink Seat Information Tracking System detects, displays and records occupancy and belt buckle status of all seating positions in a vehicle. The system includes a head unit mounted in the front of the vehicle and wireless seat sensing modules at each row of seats. The head unit display will automatically turn on if the ignition key is in the run position or if any seat is occupied.

Display Overview

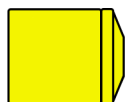


Operating Instructions (continued)

Seat Status Descriptions



OPEN: This seat is unoccupied and the belt is not buckled.



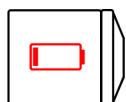
UNBELTED: This seat is occupied but the passenger is not buckled. If flashing yellow, the passenger buckled the belt before sitting down.



BELTED: This seat is occupied and the belt is buckled.



ERROR: The seat module associated with this seat is not communicating.



REPLACE POWER MODULE: The power module for this seat module is low. The seat will still change color based on occupancy and belt status but the battery icon will overlay the seat color. Replace at earliest convenience. If not replaced the seat module will stop communicating.

Operating Instructions (continued)

Data Logging

The SeatLink system records the local time, GPS location, GPS speed, and status of all seats every five seconds while the display is on (key in run or any seat occupied). This data is saved on the primary storage of the head unit in the following folder: SeatLink/Logs/. The data is stored in folders by year and then by month. There is a separate comma delimited file for every day that data is recorded.

Event Logging

A “Log Event” button on the head unit display allows the operator to manually record an event in the SeatLink data log. This puts a marker in the current log file with the time that the button was pressed. Another file is also created in the Month folder that lists the triggered events with date and time. Adding an event marker in the data log can aid data review at a later time.

Data Extraction

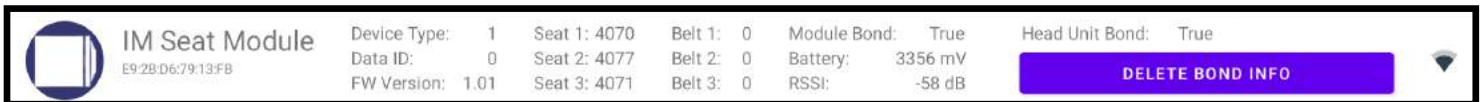
Use a laptop to extract the log data from the head unit.

1. Unplug the USB cable from the charger installed on the vehicle.
2. Plug the cable into the laptop.
3. Swipe down from the top of the head unit display.
4. Tap Notification “Android System—charging this device via USB” to expand.
5. Tap again for more options.
6. Select Use USB for “File Transfer.”
7. On the laptop open the K108 storage device and browse to Internal shared Storage\SeatLink\Logs.
8. View/Copy desired log files.

Diagnostics

Show Module Data

1. Press and hold the SeatLink Logo in the lower right of the head unit display until the setup menu appears.
2. Select “Show Module Data” from the menu.
3. A scrollable list of all detected seat modules will appear with diagnostic information.



FW Version: Firmware version on the seat module.

Seat 1, 2 & 3: Seat occupancy sensor readings. These readings range from 0 to 4095. More force applied to the seat will result in a lower sensor reading.

Belt 1, 2 & 3: Belt buckle inputs. The value is either 1 when buckled or 0 when unbuckled.

Module Bond: True if module has bond information stored.

Battery: Input voltage reading.

RSSI: Received Signal Strength Indicator.

Head Unit Bond: True if head unit has bond information stored for this seat module.

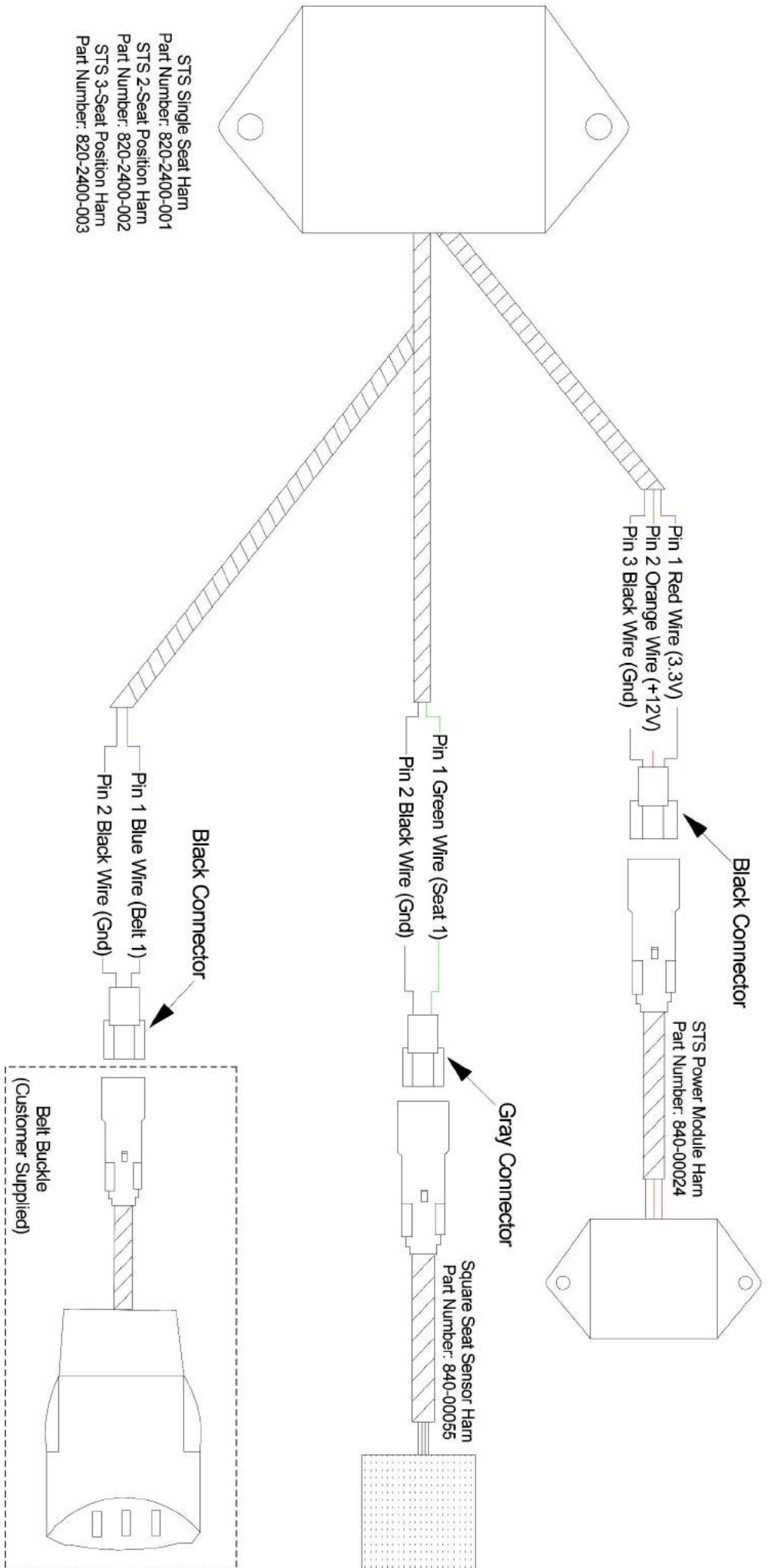
DELETE BOND INFO: Tapping this button will delete the bond information stored on the head unit for this specific seat module. **NOTE:** the seat module will still have stored bond information. See next section for the seat module pat and rub procedure to delete bond information.

Seat Module Delete Bond Pat and Rub

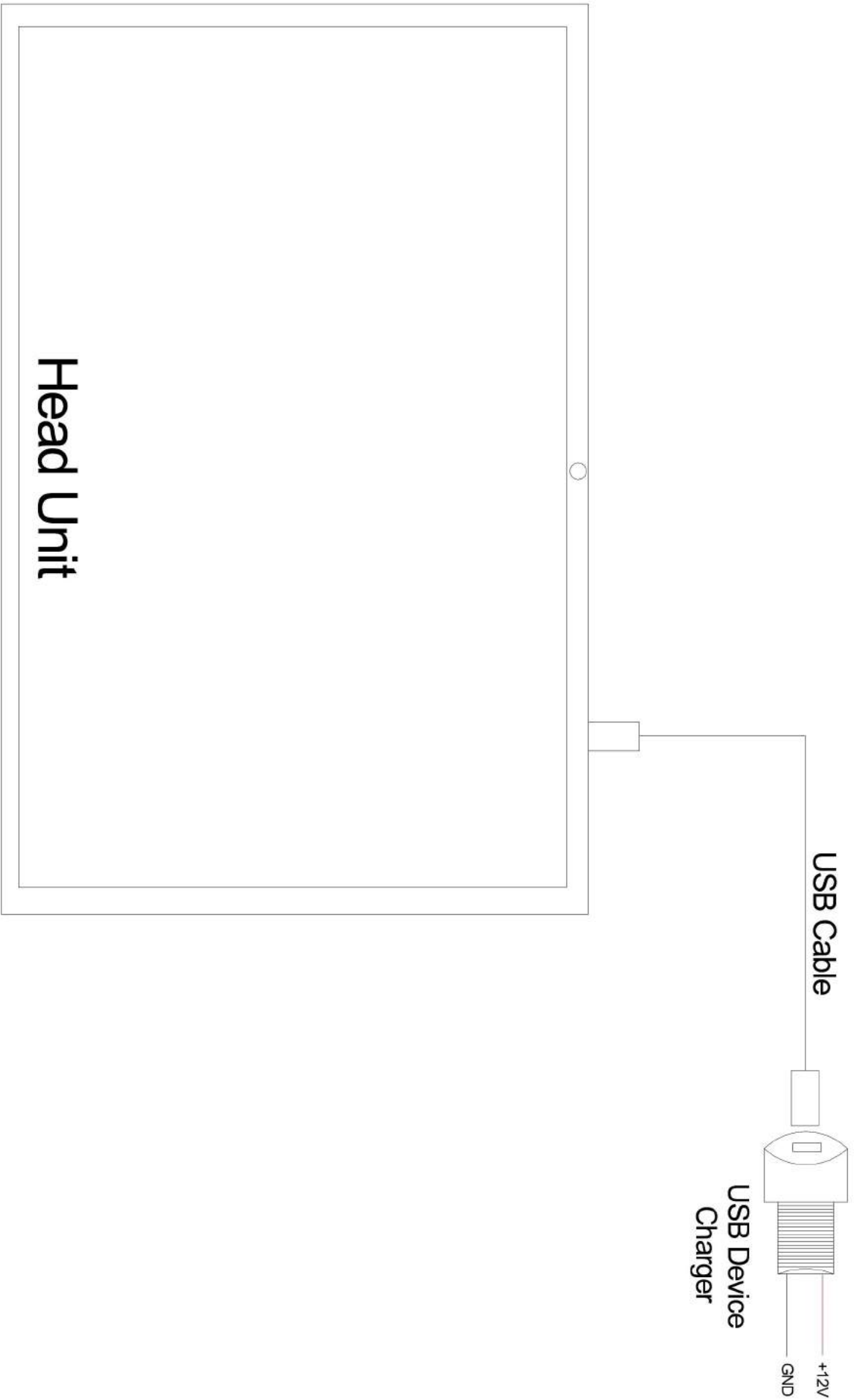
This pat and rub procedure will delete the bond information stored on a seat module. This may be necessary if a module has been bonded to the wrong head unit or a head unit has been damaged and must be replaced.

1. Start with all seat occupancy and belt buckle sensors inactive.
2. Cycle seat belt 1 input once per second (no faster) for 10 seconds. This can be done while observing the module data on the bonded head unit. The Module Bond value will transition from True to False.

Note: If the bonded head unit is not available, any head unit can be used. The data for this seat module will not appear until the bond has been deleted from the module.



If the SeatLink fails any step in the Post Installation Check List, review the installation instructions and check all connections.
If necessary, call Freedman Seating Technical Support at (773) 524.2440.



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