


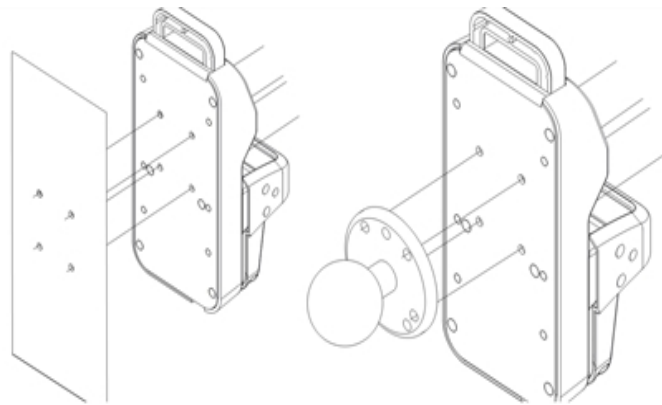
T03-00014-Bxxx/T03-22011-Dxxx Vehicle Chargers Installation Instructions

The T03-22011-Dxxx for IS/NI radios and T03-00014-Bxxx for non-IS radios vehicle chargers allow for Tait portable radios to be charged within a vehicle.

 To avoid injury, installation must only be carried out by appropriately skilled and authorized personnel.

The vehicle charger is supplied with a power cable, but no fasteners. It is the installer's responsibility to provide suitable fasteners.

The vehicle charger can be mounted directly to a vertical surface, but a third-party mount, such as the RAM-202U, can also be used.



The RAM-202U ball head mount from RAM Mounting Systems, Inc has a 2 1/2 inch diameter flat base with pre-drilled holes and a 1 1/2 inch ball head that attaches to a mounting arm. For details of recommended mounting arms, and to order these parts, go to <https://rammount.com/> and search for 'RAM-202U'.

For information on how to properly use the radio and battery, see the documentation listed in the table below, available from the Tait support website <https://partnerinfo.taitradio.com/>.

Title	Part number
Li-ion Battery Safety Information	MPC-00006-xx
Battery Charging Guide	MPD-00002-xx
Safety and Compliance Information	MTA-00011-xx
Safety and Compliance Information for Intrinsically Safe Portable Radios with ATEX and IECEx certification	MPD-00013-xx
Safety and Compliance Information for Intrinsically Safe Portable Radios with AEx, Ex, and Non-Incendive Certification	MPD-00027-xx

Alert symbols and Message Conventions

Please follow exactly any instruction that appears in the text as an 'alert'. An alert provides necessary safety information as well as instruction in the proper use of the product. This document uses the following types of alert:



Warning This alert is used when there is a hazardous situation which, if not avoided, could result in death or serious injury.



This alert is used when there is a hazardous situation which, if not avoided, could result in minor or moderate injury.

Notice This alert is used to highlight information that is required to ensure procedures are performed correctly. Incorrectly performed procedures could result in equipment damage or malfunction.



This icon is used to draw your attention to information that may improve understanding of the equipment or procedure.

Safe Mounting and Operation of the Vehicle Charger

Before installation or use, be sure to carefully read all the instructions in this section for correct and safe installation and operation. After reading this document, keep it for future reference. For more information on radio installation, see the installation guide for your radio available from the Tait Support website <https://partnerinfo.taitradio.com/>.



Warning Incorrect installation of the vehicle charger may result in death or serious injury. The charger could break loose due to the extreme forces applied during a collision or braking.

- Install the charger only to a mounting surface or structural element and in a location that can structurally support the combined weight of the charger and radio during a collision.
- Use fasteners that are appropriate for the mounting surface's structure and composition.
- Tightly secure each fastener, ensuring the vehicle charger and the radio have no loose joints after installation.
- Check regularly that the vehicle charger and radio are still secure. Re-tighten or replace if necessary.



Warning Avoid obstructions. When mounted, the charger must not obstruct or endanger the occupants of the vehicle. The charger must not obscure the driver's vision, interfere with control of the vehicle, or obstruct any airbags.



Warning Before drilling any holes in the vehicle, check that drilling at the selected points will not damage existing wiring, petrol tanks, fuel and brake lines, or battery cables.



Warning To avoid accidental air explosions, do not use the unit around petrol (gasoline), thinner or other combustibles.



Warning If the vehicle is a fuel or gas tanker, observe the special conditions that must be observed when installing radio equipment on fuel or gas tankers. For details, contact your radio provider or a Tait-accredited service center.



Warning If the vehicle is powered by LPG (liquefied petroleum gas), observe LPG requirements. If the LPG container is in a sealed-off space within the interior of the vehicle, a radio equipment installation must conform to the National Fire Protection Association Standard NFPA 58. The standard states that the radio equipment installation must meet the following requirements:

The space containing the radio equipment shall be isolated by a seal from the space containing the LPG container and its fitting.

Outside filling connections shall be used for the LPG container and its fittings.

The LPG container space shall be vented to the outside of the vehicle.



Warning Avoid interference with vehicle electronics. Install the charger and the power cable clear of all other electronic systems and cables. Some electronic devices in the vehicle may malfunction when a radio is transmitting. Devices that can be affected include electronic fuel injection systems, electronic anti-skid braking systems, electronic cruise control systems, and vehicle indicators (turn signals). Interference can occur if the electronic device is not adequately protected against RF energy. If the vehicle contains such equipment, consult the vehicle manufacturer or vehicle dealer to determine whether these electronic circuits will perform normally when a radio is transmitting.



Warning When the portable radio is used inside a vehicle, radio performance is degraded. Use a mobile radio for all critical communications. If the portable radio must be left switched on while it is in the charger, removing the radio from the charger will improve radio performance. Check your local regulations about using a portable radio within a vehicle.

Notice When installing the vehicle charger, make sure the cables are protected from engine heat, sharp edges, and from being pinched or crushed. Use appropriate cable grommets.



Installation of this product on a vehicle must be performed according to the instructions provided by the vehicle manufacturer. For more information, refer to the vehicle manufacturer's website or contact the vehicle manufacturer's dealer.

Selecting the Mounting Position and Method



Warning Incorrect installation of the vehicle charger may result in death or serious injury. Read the instructions in "Safe Mounting and Operation of the Vehicle Charger" on page 3.

Before installing the vehicle charger, make sure that the mounting position meets the following criteria:

- The mounting position has enough height for the radio (with antenna) to be easily fitted and removed.
- The charger retention bar and the release bar can be operated without obstruction.
- The mounting surface or structural element must be able to structurally support the combined weight **910g** of the charger and radio during a lock and release operation or a collision.
- The charger will not be exposed to direct sunlight once mounted.

Notice Direct sunlight will heat the battery and may interfere with normal charging. Tait recommends that you install the charger low in the vehicle cabin.

- The charger should not be mounted upside down. A radio placed in the charger will remain in the charger until the retention bar is engaged. When released from the charger, the radio will not fall on or injure occupants of the vehicle.
- The charger can be used when seat belts are secured, and will not obstruct airbags.
- Any accessories can be used without obstruction. See warning about radio performance degradation "When the portable radio is used inside a vehicle, radio performance is degraded. Use a mobile radio for all critical communications. If the portable radio must be left switched on while it is in the charger, removing the radio from the charger will improve radio performance. Check your local regulations about using a portable radio within a vehicle." on the previous page
- The glove box can be opened without obstruction.
- Power can be supplied to the charger. See also "Connecting Power to the Charger" on page 11.

The vehicle charger is not supplied with fasteners. It is the installer's responsibility to provide suitable fasteners. If you have access to both sides of the mounting surface, you can use nuts and bolts to secure the charger or RAM-202U mount to the surface. Otherwise, use self-tapping screws.

For some surfaces, you may need to prepare the holes. Use a punch, then drill the hole.

The vehicle charger drill template is at the back of this manual, see "Drill Template" on page 12. To attach third-party mounting hardware to the vehicle, use the templates and documentation provided with that hardware.

Installation against a Vertical Surface

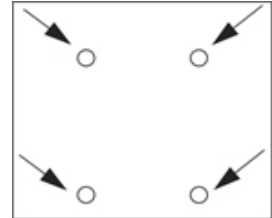
This is the **recommended** mounting method. Use this method to mount the charger to a vertical surface. No disassembly is required. You will need fasteners to secure the charger to the vehicle.

1. Use the "Drill Template" on page 12 or the charger mounting holes to mark the vertical surface with the location of the four **through** holes that the fasteners will pass through.

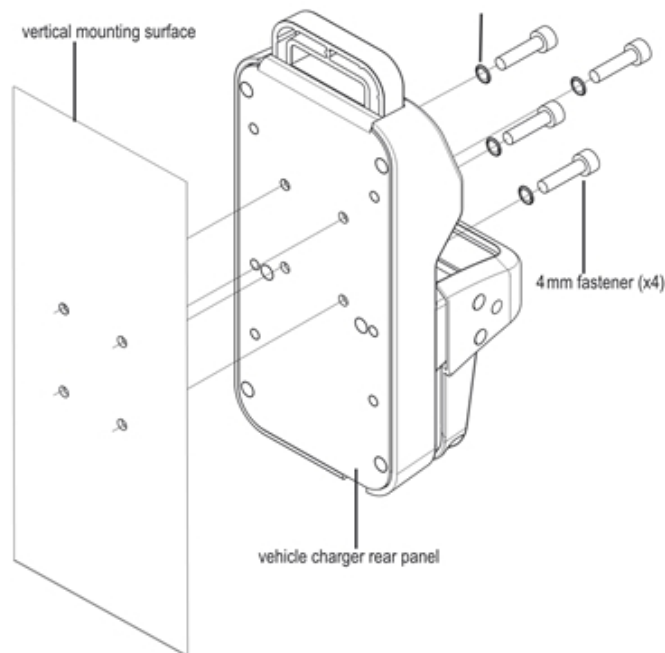


Warning Before drilling any holes, read "Safe Mounting and Operation of the Vehicle Charger" on page 3.

2. Drill any holes required for wiring.
3. Drill the mounting holes and use four fasteners to secure the vehicle charger to the vertical mounting surface.



If access to the power socket on the charger will be restricted once the charger is mounted, connect the power cable to the charger now. Otherwise, connect the power cable once the charger is mounted.



1.1 Installation using the RAM-202U Mount

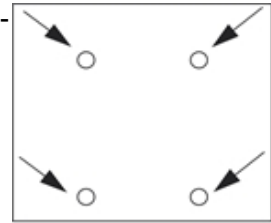
Use this method to mount the charger using a RAM-202U mount attached to a third-party arm. No dis-assembly of the charger is required. You will need fasteners to secure the arm to the vehicle. Follow the instructions provided with the mount.

1. Use the base of the third-party mounting arm, or a template provided with the arm, to mark the location of the fasteners that will secure the mounting arm to the vehicle.



Warning Before drilling any holes, read "Safe Mounting and Operation of the Vehicle Charger" on page 3.

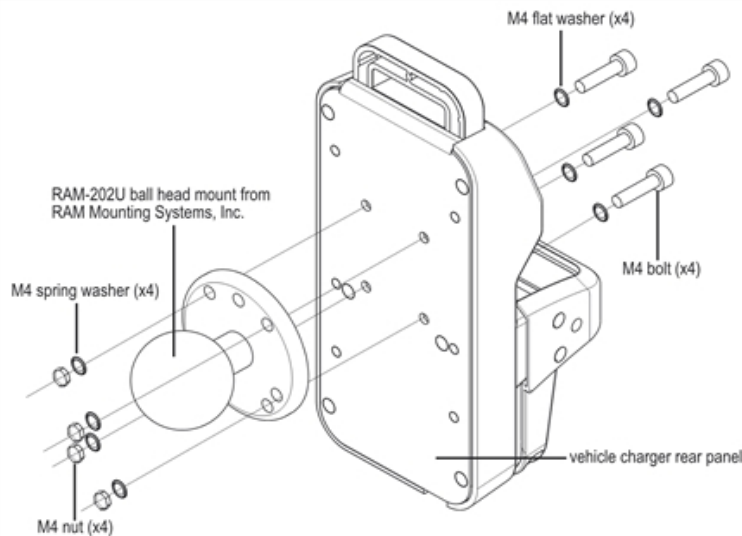
2. Drill any holes required for wiring.
3. Drill the mounting holes and secure the mounting arm to the vehicle using suitable fasteners. Follow the instructions provided with the mounting arm.
4. If applicable, see "Disabling the ignition sense signal" on page 9.
5. Use four M4x12 button head screws, spring washers, and flat washers to attach the flat base of the RAM-202U to the main mounting bracket on the charger.



6. Securely attach the ball head of the RAM-202U to the mounting arm. Follow the instructions provided with the mount.



If access to the power socket on the charger will be restricted once the charger is mounted, connect the power cable to the charger now. Otherwise, connect the power cable once the charger is mounted.



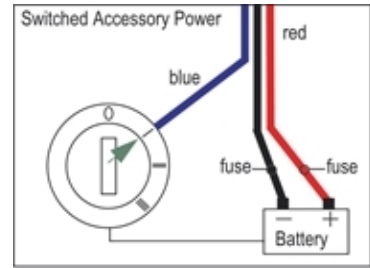
Selecting the Ignition Sensing Method

Decide on an appropriate method of connecting the charger to the power source.

Ignition Sensed (Recommended)

The charger is switched off when the vehicle is switched off. Charging resumes when the ignition is switched on again. Until then, the charger draws only minimal standby power from the vehicle battery.

To use this method, enable ignition sense as described in "Enabling or Disabling the Ignition Sense Signal" on the facing page.

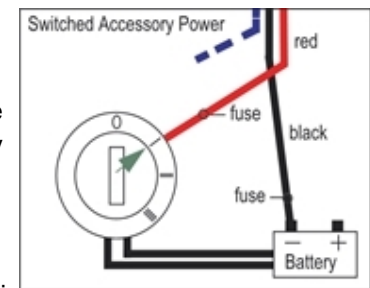


Ignition Switched

The charger is switched off when the vehicle ignition is switched off. See ignition sensed above.

The source of switched accessory power (for example, the fuse box in the vehicle), must have a current rating of at least 3A. If the charger and multiple in-vehicle systems are connected to the same source of switched accessory power, the total power drawn can trigger a charger 'under voltage' event. This will not harm the charger but charging will be temporarily suspended and the orange LED will flash until voltage returns to normal.

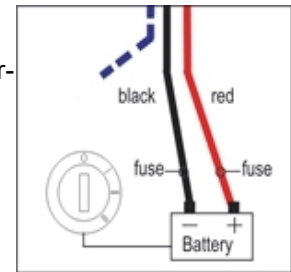
To use this method, disable ignition sense as described in "Disabling the ignition sense signal" on the facing page



Continuously Powered

The charger is on at all times. Even when the vehicle ignition is switched off, the charger continues to operate and to draw power from the vehicle battery. If the charger is left on when the vehicle is not in regular use, the vehicle battery could be drained.

To use this method, disable ignition sense as described in "Disabling the ignition sense signal" on the facing page



The vehicle's 12V auxiliary power outlet (cigarette lighter) is connected using these methods, so you should be able to connect to the outlet's power supply.

Enabling or Disabling the Ignition Sense Signal

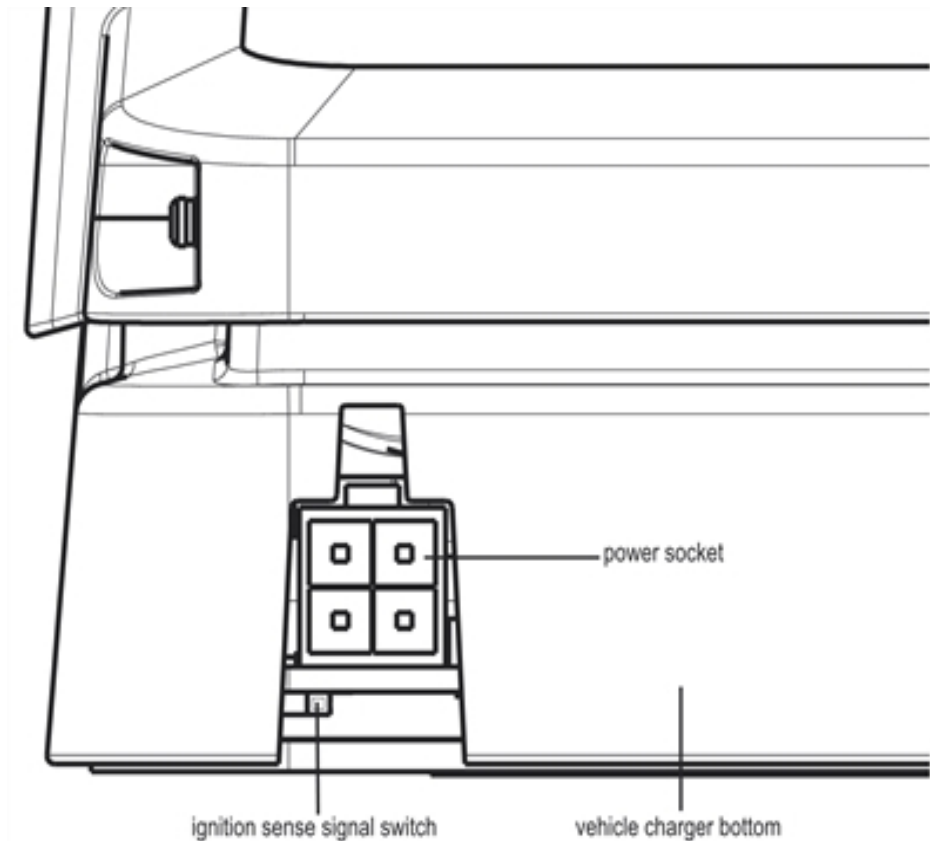
The ignition sense signal switch is located inside the bottom of the charger, near the power socket, as indicated in the image below.

Disabling the ignition sense signal

The vehicle charger is supplied with the ignition sense signal enabled by default. To disable the ignition sense signal, use a small tool to gently slide the switch back into the charger.

Enabling the ignition sense signal (enabled by default)

To enable the ignition sense signal, carefully slide the switch out towards you.



1.2 Connecting the Vehicle Charger

Decide on an appropriate method of connecting the charger to the power source. The charger can be ignition-sensed, ignition-switched, or continuously powered. For more information see "Selecting the Ignition Sensing Method" on page 8.

Power cable

The power cable is supplied in all charger packages. It has red, black, and blue leads and a DC power plug for connection to the vehicle charger. Plan how you will install the power cable.

Fuses

The red and black leads in the power cable each have a built-in 3A automotive blade fuse. The fuses are plugged into inline fuse holders and are easily replaced if necessary. When installing the power cable, make sure that the fuses are near the vehicle battery and are accessible. To remove a fuse, slide it from the holder (if the fuse has blown, the 'S' is no longer visible through the plastic body of the fuse). To order a replacement fuse from your Tait dealer, quote part number **265-00010-64**.

Vehicle power source

Make sure that the vehicle power source can supply the power required by the charger. The charger is designed to operate from a 13.8V nominal supply but will tolerate a supply voltage range of 12V to 18V. The charger will draw a maximum of 2A.

The Tait TA2761-02 24V to 12V DC-DC converter takes input between 10V and 30V and regulates it to 14.4V at up to 6A. Use a voltage converter if the vehicle has a 24V power supply or if the power supplied by the vehicle may be unstable (for example, while the battery in a fire tender is being charged at the station).

Notice If using a 24V to 12V converter to supply power to the charger, make sure that the converter maintains output regulation to 12V when the load current is 0mA.

1.3 Connecting Power to the Charger

Connect the power cable to vehicle power, then connect the power cable to the charger. If mounting the charger will restrict access to the power socket on the charger, connect the power cable to the charger before mounting the charger.

Connecting to vehicle power

Leave the vehicle battery connected during the installation. Disconnection is not necessary and may disrupt other electronic systems in the vehicle.

1. Run the supplied power cable from the charger location to the power source, following the best route available.
2. Remove the in-line fuses from the fuse holders in the power cable. Using your fingers or a pair of rubber-nosed pliers, slide the fuses from the fuse holders. If using pliers, do not crush the fuse.
3. Position the power cable so that the fuse holders are as close to the power source as possible. This makes it easier to change a fuse later, if necessary.
4. Cut the power cable to length. If connecting the power cable to the vehicle battery, leave approximately 8 inches (200mm) of excess lead at the vehicle battery end. Split the leads, strip the ends, and connect the leads according to the chosen connection method: "Ignition Sensed (Recommended)" on page 8, "Ignition Switched" on page 8, or "Continuously Powered" on page 8.
5. Connect the red and black power cable to the vehicle power as described in "Selecting the Ignition Sensing Method" on page 8
6. Enable or disable the ignition sense as required and connect the blue lead to the vehicle power as described in "Selecting the Ignition Sensing Method" on page 8.
7. Replace the fuses in the power cable.

1.4 Drill Template

