

Mobile Collection

Hardware Installation Guide

Putting knowledge to work.

Identification

Mobile Collection Hardware Installation Guide
01/08/2009 TDC-0770-002

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If you have questions or comments about the software or hardware product, contact Itron Technical Support:

Contact

- Internet: www.itron.com
- E-mail: support@itron.com
- Phone: 1 800 635 8725

Disclaimers

RF EXPOSURE

To comply with FCC requirements, maintain a separation distance of at least 40.0 centimetres between the antenna and all persons.

ELECTROMAGNETIC COMPATIBILITY

Use only approved accessories with this equipment. In general all cables must be high quality, shielded, correctly terminated, and normally restricted to 2 meters in length. The Mobile Collector Lite employs special provisions to avoid radio interference and should not be altered or substituted.

Unapproved modifications or operation beyond or in conflict with these instructions for use, may void authorization by the authorities to operate the equipment.

This device has been designed to operate with the antennas listed below, and having a maximum gain of 5 dB. Antennas not included in this list or having a gain greater than 5 dB are strictly prohibited for use with this device. The required antenna impedance is 50-ohms.

To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that permitted for successful communication.



WARNING! Do not visually monitor or physically adjust the Mobile Collection system while driving. While driving, rely on the beeps produced when meter data is collected to indicate proper system operation. Visually monitoring or adjusting the Mobile Collection system while driving will divert your attention from your safe driving responsibilities. *Attention to driving is your primary responsibility, along with following all the applicable driving regulations.*

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CHAPTER 1

Using the MC3 System

This chapter introduces you to the features, functions, and components of Mobile Collection 3.0 (MC3) system.

About the MC3 System

The MC3 is Itron's powerful, next-generation mobile collection system for electric, gas and water providers. It offers advanced radio technology for unsurpassed performance, along with a sophisticated mapping application utilizing GPS technology that provides a visual indication of endpoint location.

For more information, see:

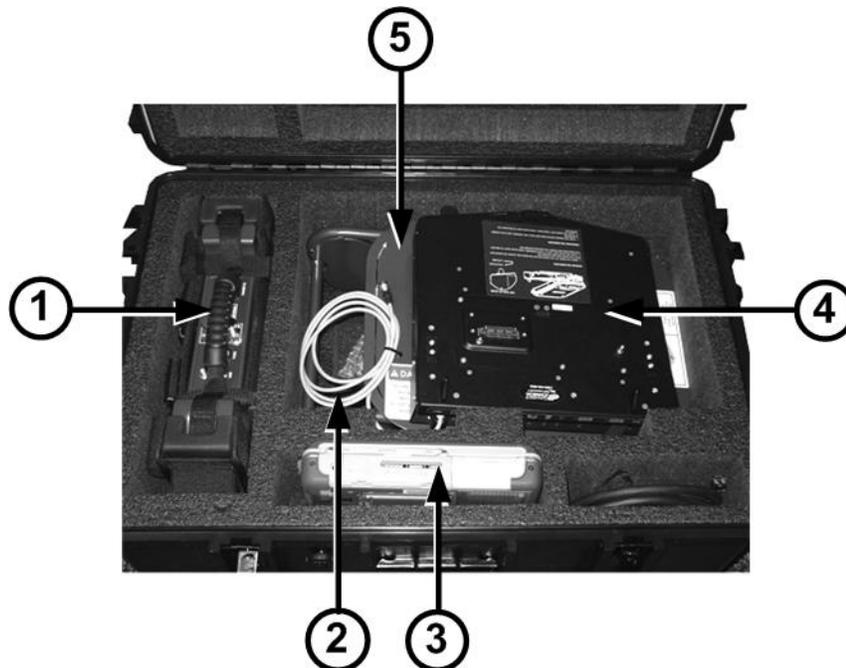
- [Installing the MC3 System](#) on page 2
- [Removing the MC3 System](#) on page 25



If your vehicle has a passenger-side airbag, Itron strongly recommends disabling it when the Mobile collection system is installed. The force of the airbag deploying could damage the laptop, radio, or other components of the system.

Mobile Collection Hardware Kit

The Mobile Collection 3.0 hardware kit contains the following items:



ID	Item	Description
1	MC3 radio	Includes a mounting harness and straps for installing the system in your vehicle.
2	USB cable	Comes attached to the dock and attaches to the GoBook. Provides communication between GoBook and MC3 radio.
3	GoBook XR-1	Runs the Mobile Collection software to collect reads. The MC3 radio is also compatible with the GoBook III laptop.
4	GoBook dock	The GoBook, power cables, and communication cables attach to the dock.
5	Sled	Installs in the vehicle's passenger seat with the attached seat belt pretensioner. Sleds are available for both the XR-1 and GoBook III.
Not Pictured	Cables	Connects the MC3 and GoBook dock to the junction box.
	Power junction box	Attaches to the sled or to a pedestal mount. Provides power to the GoBook, MC3 radio, and optional equipment. The junction box must be installed prior to first use. See Installing the Junction Box on page 5 for more information.
	Omni-mount antenna	Attaches to the top of the vehicle and receives endpoint transmissions.
	Type N to TNC adapter	Connects older antennas to the MC3 radio. This adapter is only needed if you are using an MC3 radio with an older omni-mount antenna (such as one from a v2.5 system) that is already installed on your vehicle.



The Itronix documentation refers to the laptop receptacle as a *cradle*; Itron uses the term *dock* to identify this piece of equipment. The term *dock* is used repeatedly throughout this manual; however, *dock* and *cradle* are interchangeable.

Installing the MC3 System

This chapter guides you through the installation of the Mobile Collector radio (MC3) and GoBook XR-1 laptop computer.

Before installing these Mobile Collection system components, the procedures in the Mobile Collector Vehicle Preparation Guide and Mobile Collector Sled and Pretensioner Installation Guide must be completed.



WARNING! Install the Mobile Collection system in the vehicle as described in this document and those listed above. Failure to do so could lead to injury or death from unsecured components during a collision.

About the Sled

The Mobile Collector sled is used to securely fasten the GoBook in the vehicle. It is placed on the passenger seat and secured with a seat belt and pretensioner.



Watch the Mobile Collector Safety Video and read the Mobile Collector Sled and Pretensioner Installation Guide (*TDC-0708-xxx*) to learn how to correctly install the sled in your vehicle. These materials are located in a plastic sleeve on the underside of the sled.

The sled has the GoBook dock attached to it, which serves as a locking base and also provides power and communications to the laptop.

A power junction box ships in the Mobile Collector kit and needs to be attached to the sled. When attached, the junction box on the sled should be facing passenger side door of the vehicle (the junction box is attached in the example below).

Install the sled on the passenger seat before mounting the MC3 radio. The sled must be installed with the seat belt pretensioner; see [About the Seat Belt Pretensioner](#) on page 4 for more information.

The sled components are shown below.



ID	Item	Description
1	Mobile Collector sled	Attaches to the vehicle passenger seat with the seat belt and pretensioner system.
2	Junction box	Provides power to the various Mobile Collection components. The junction box must be attached prior to first use.

ID	Item	Description
3	GoBook dock	Attaches to the GoBook and provides a secure base for the laptop while in the vehicle. Docks are available for use with both XR-1 and GoBook III models.

About the Seat Belt Pretensioner

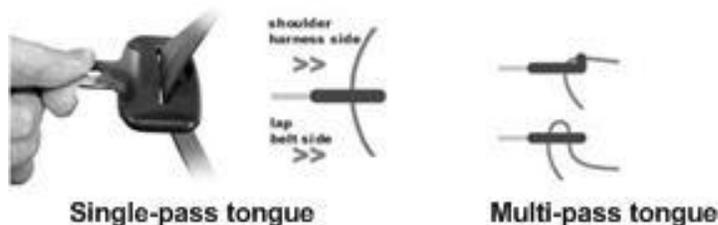
The seat belt pretensioner makes the modern three-point safety harness in your vehicle function similarly to an old-fashioned lap seat belt. By using the pretensioner mechanism to cinch the mounting hardware very firmly into the junction of the seat back and the seat pad, the pretensioner and radio mount restricts potentially hazardous equipment movement during impact.



Modern three-point harnesses are designed to be forgiving to occupants to lessen injury. By preventing the pay-out of seat belt webbing designed to protect people and instead using the pretensioner to immobilize equipment, a higher degree of protection is provided in the event of a collision.

Through standardized crash testing of the Mobile Collection system, Itron has determined that preventing extensive rotation of the Mobile Collection equipment in a driver's side impact reduced the stress on mechanical systems to acceptable levels. Decreasing the amount of equipment rotation towards the driver prevents the fasteners holding the GoBook and its dock to the sled from separating in a crash.

The seat belt pretensioner can be used in vehicles equipped with single-pass and multiple-pass seat-belt tongues.



To install the seat belt pretensioner

- Follow the procedures in the *Mobile Collector Sled and Pretensioner Installation Guide (TDC-0708-xxx)*. A DVD showing the installation is also included with your kit. These materials are located in a plastic sleeve on the underside of the sled.

Installing the Junction Box

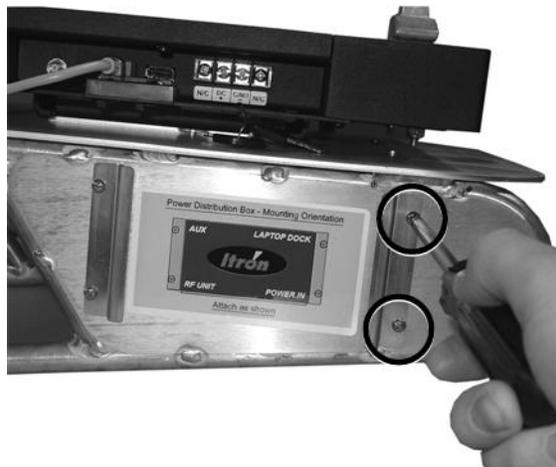
The junction box takes power from the vehicle and distributes it to the MC3 radio, GoBook, and an optional EkaNet radio (when installed).

Before you can install the MC3 system for the first time, the junction box must be installed on either the sled or a pedestal mount.

Once installed, the junction box should remain attached to the sled or pedestal.

To install the junction box

1. Remove the junction box from the MC3 kit.
2. Locate the sled or pedestal mount on which the junction box will be installed. In the following example, a sled is used.
3. Using a Phillips screwdriver, remove the two screws holding the junction box bracket in place.



4. Slide one end of the junction box into position over the bracket that is still attached; be sure to orient the junction box according to the label on the sled or pedestal. The junction box has a recessed edge that the bracket fits into.



5. Insert the other bracket (the one you removed) into the junction box, making sure that both screw holes are visible through the bracket.
6. Insert and tighten both screws to secure the junction box to the sled or pedestal.

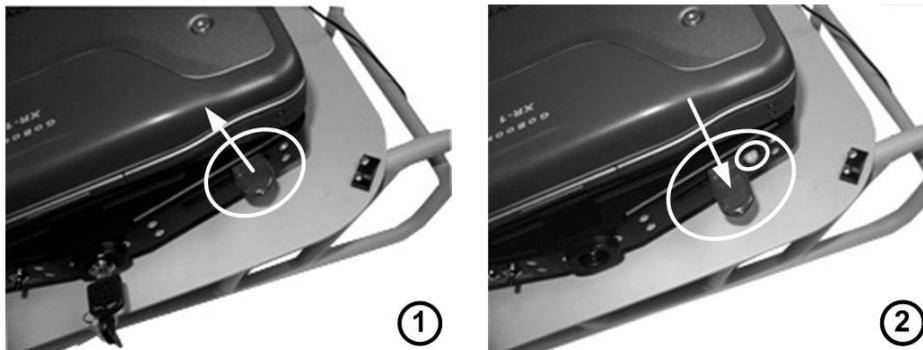
About the Dock

The Mobile Collector dock is used to secure the GoBook to either the sled or a pedestal mount in your vehicle. It has connections for power and communications between the GoBook and Mobile Collector radio.

When the XR-1 is attached, the dock must be locked to properly secure the laptop. While in the locked state, the dock's locking mechanism extends out further from the sled than when in the unlocked position. A green button also appears next to the locking mechanism when the dock is locked.

To lock or unlock the dock for the XR-1, push the mechanism in, move it toward the keys on front of the dock, and then slide it back toward its original position; the mechanism works in a "V" pattern to lock or unlock the dock.

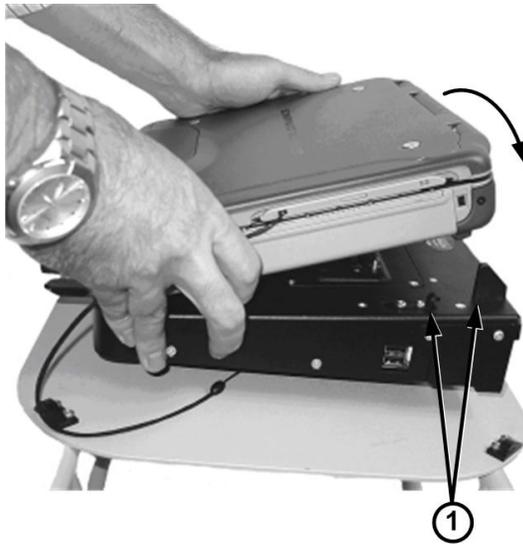
The examples below show the dock on a sled in the unlocked (1) and locked (2) positions, with an XR-1 attached.



A dock is also available for use with the GoBook III laptop; see [Attaching the GoBook III to the Vehicle Dock](#) on page 23 for more information.

Attaching the GoBook XR-1 to the Dock

1. Make sure the dock is in the unlocked position.
2. Angle the front of the GoBook down, toward the front of the dock (where the key and locking mechanism are). Notice the connectors and guide posts (1) near the back of the sled base. These help ensure proper placement of the GoBook.

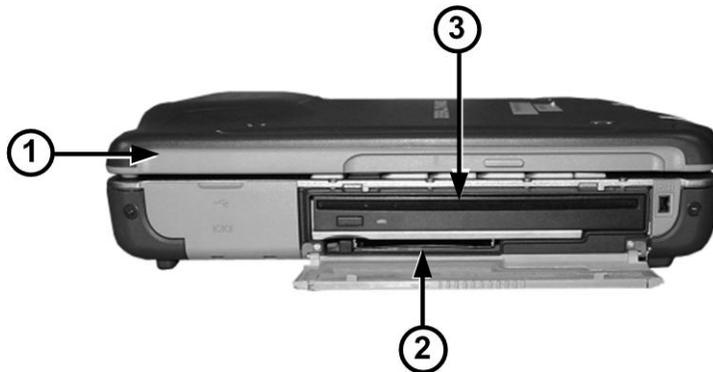


3. Push the back of the laptop down on to the connectors.
4. When the laptop is in place, engage the dock locking mechanism to secure the connectors to the laptop and prevent it from moving.
5. Push the keyed mechanism in on the front of the dock to further secure the GoBook to the dock. This helps prevent the GoBook from being stolen. (Use the supplied key to release the lock later.)

Using the PCMCIA Flash Card Adapter

The GoBook has a PCMCIA slot that, with an adapter, you can use to read compact flash cards.

The PCMCIA slot is on the right side of the GoBook, just below the CD drive.



ID	Description
1	Front of GoBook XR-1
2	PCMCIA slot
3	CD drive

The compact flash card should come installed from the factory. If it is not installed or you wish to replace cards, use the following procedures.

To insert the flash card adapter

1. Slide the flash card into the PCMCIA adapter.



2. Open the CD drive / PCMCIA slot compartment on the right-hand side of the GoBook.

3. Slide the adapter into the PCMCIA slot on the GoBook until it clicks into place.



To remove the flash card adapter

1. Open the CD drive / PCMCIA slot compartment on the right-hand side of the GoBook.
2. Push the button in until the adapter pops out of the slot.



3. Pull the adapter the rest of the way out.
4. Remove the compact flash card from the adapter.

Mounting the MC3

The MC3 is mounted in a harness that can be attached to either a bucket- or bench-seat in a vehicle. The harness contains clips on the top for mounting it on a bucket seat, and clips on the side for bench seat mounting. The MC3 is shipped in its vehicle mount, with the straps set up for a bucket seat. The bench straps are included in the container the MC3 was shipped in.

Mount the sled before mounting the MC3 on the seat.

If you are using a sled to secure the GoBook, be sure to mount the MC3 high enough on the seat that the sled and laptop will fit easily beneath it. If you are using a pedestal mount, the MC3 can be attached lower if desired.

To mount the MC3 on the seat

1. If the MC3 radio has been removed from its harness:
 - Slide the radio into its harness, with the MC3 label showing through the opening on the front of the harness.
 - Secure it in place by buckling the two diagonal corner straps (1).



2. Strap the mount to either the front or the back of the passenger-side seat back. Position the unit within the mount so that when it is strapped to the seat back, the unit's connectors face *toward the passenger-side door*.

- **Sled Systems** If you will be installing a sled, be sure to mount the MC3 high enough on the seat back so that the sled and laptop will fit beneath the radio on the seat.



- **Pedestal Systems** If you will be attaching the GoBook to a dock on a pedestal, the MC3 radio can be attached lower on the seat. This configuration is shown in the following examples.

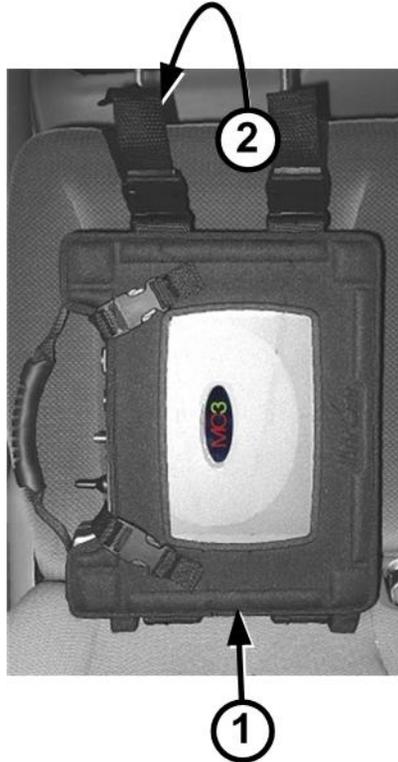
Depending on whether the vehicle has a separate passenger-side bucket seat or a bench seat, do one of the following:

- **Bucket Seat** Extend the mounting straps from the driver-facing side of the vehicle mount (1), and then wrap them around the seat back and buckle them to the opposite side of the vehicle mount (2).



- **Bench Seat** Connect the optional bench-seat straps to the buckles on the bottom of the vehicle mount.

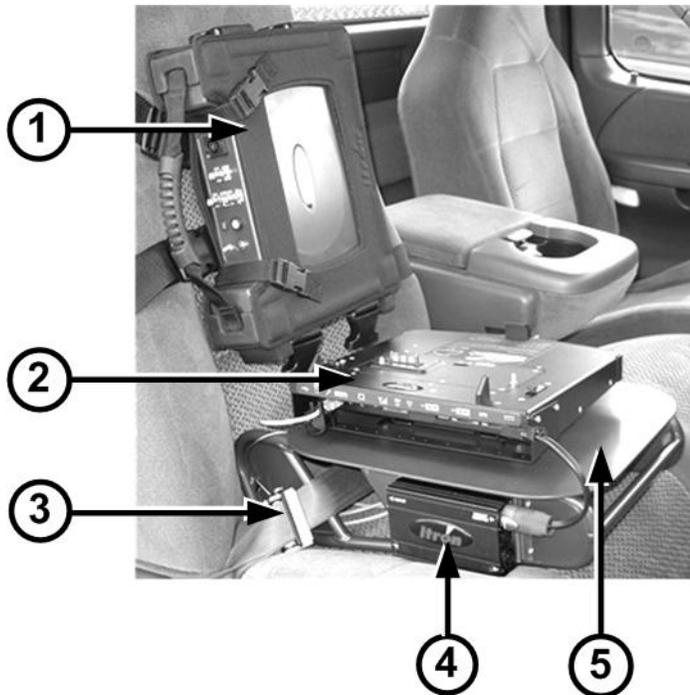
Push the free ends of the straps between the seat cushion and the seat back (1), and then extend them up and over the top of the seat back and connect them to the buckles on the top of the vehicle mount (2).



3. Tighten the straps until the MC3 is snug against the seat back.

Connecting the GoBook XR-1 to the MC3

The MC3 rides in a harness that attaches to bucket- or bench-style passenger seat. The sled for the GoBook XR-1 is equipped with a dock for the computer and a junction box for power connectors (the junction box must be attached to the sled prior to use). The sled should be mounted on the seat before the MC3 radio is attached. The MC3 must be mounted high enough on the seat so that the right side ports on the GoBook are accessible, as shown in the example below.

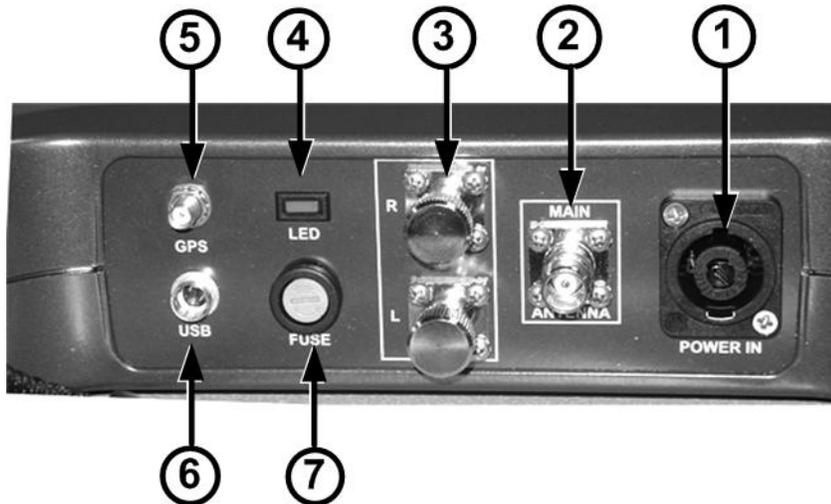


ID	Component	Description
1	MC3 radio	Houses components necessary for collecting mobile reads, such as the processors, receivers, and GPS equipment.
2	Laptop dock	Provides a communication link between the GoBook and the MC3 radio. Also provides power to the laptop.
3	Seat belt pretensioner	Secures the sled in the vehicle. A properly installed sled is vital to ensure your safety while collecting reads.
4	Junction box	Receives power from the vehicle and distributes it to the MC3 radio, GoBook, and optional equipment.
5	Sled	Attaches to the passenger seat of a vehicle and secures the GoBook and dock in place.

MC3 Connectors

The top of the MC3 radio contains the power and communications connectors, as well as a fabric and rubber handle used to carry the radio.

The connections on the MC3 are described in the following table.



ID	Connector	Description
1	Vehicle power	<p>Input that receives the connector running to the vehicle power source to provide power to the MC3.</p> <p>In addition to wiring the power cable directly to the vehicle, a cigarette lighter power cable is available for emergency use only. Using this cable will disable the power management functions of the MC3 and could adversely affect system performance. Disconnect this cable from the power source when not in use. Failure to do so could result in a dead battery.</p>
2	Main antenna	Connector for the roof-mounted antenna cable.
3	Side-looker antennas	<p>Extra connectors for optional side-looking, roof-mounted antennas.</p> <p>Do not use these connectors for the main MC3 antenna.</p>
4	Power indicator	<p>An LED that turns on when the MC3 is receiving power.</p> <ul style="list-style-type: none"> A solid LED indicates the power is on and connected to the GoBook. A flashing LED indicates the power is on, but is not connected to the GoBook.
5	GPS antenna	Connects the MC3 to the roof-mounted GPS antenna.
6	USB	Connects the GoBook to the MC3 radio.
7	Fuse holder	Holder accepts standard automotive 12V (15 amp) ATO fuse (included) to protect internal circuitry from power surges by the vehicle.

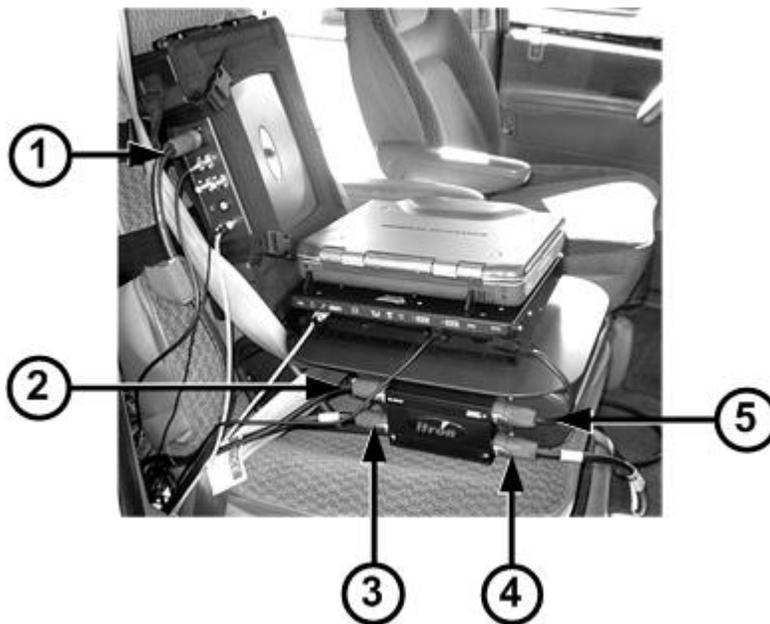
Connecting the Power Cables

Power to the Mobile Collection components is distributed through the junction box on the side of the sled. There are three power cables that must be connected:

- Vehicle power to the junction box
- Junction box to the GoBook dock
- Junction box to the MC3

There is a fourth outlet on the junction box called **AUX**. It is for powering the EkaNet radio, an optional device for mobile demand reset functionality.

The example below shows an MC3 radio and sled for a GoBook XR-1 with all the power cables connected.



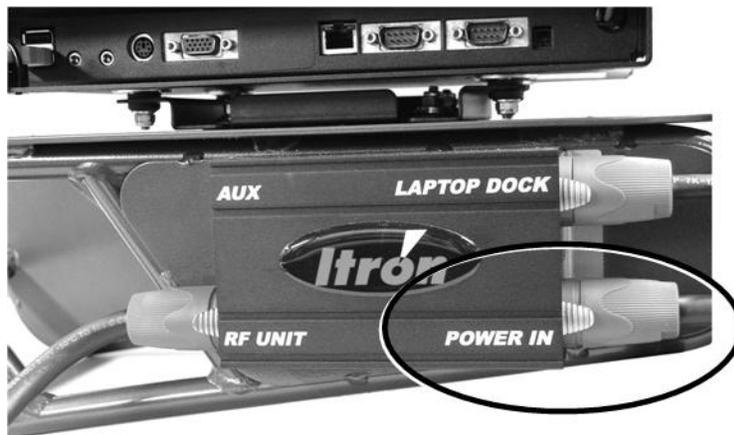
ID	Connection (Label)	Description
1	Power in to MC3 radio (POWER IN)	Power receptacle on MC3 radio.
2	Power to EkaNet radio (AUX)	Connection from junction box to optional EkaNet radio. Supplies power to the EkaNet radio for mobile demand reset functionality.
3	Power out to MC3 radio (RF UNIT)	Connection from junction box to MC3 radio.

ID	Connection (Label)	Description
4	Power in from vehicle (POWER IN)	Power source input from the vehicle's battery. This connection is hard-wired to the vehicle battery; see the Vehicle Preparation Guide (<i>TDC-0382-xxx</i>) for more information.
5	Power out to laptop dock (LAPTOP DOCK)	Connection from junction box to the laptop dock. The laptop dock secures the GoBook in place while you drive a route, and provides power and communication connections for the laptop. The dock is attached to either a sled or pedestal mount in the vehicle (a sled is pictured in this example).

To connect the vehicle power to the sled

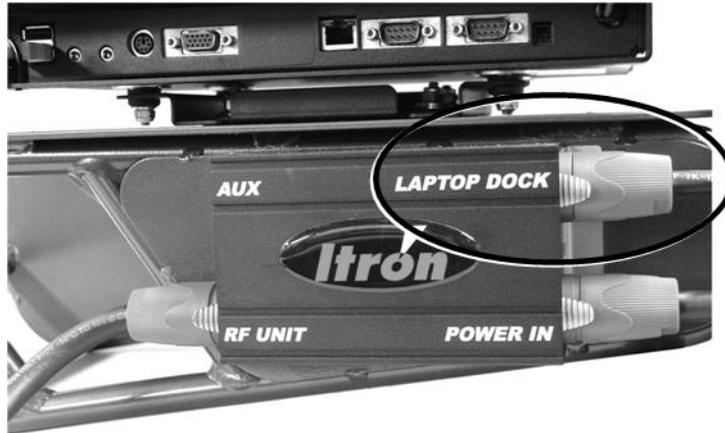
- Plug the vehicle power cable into the **POWER IN** receptacle on the junction box. Pull the silver tab on the power cable back, insert the connector into the junction box, twist the connector so the silver tab lines up with the labeling on the junction box, and release the tab to lock it into place.

The other end of the power cable is hard-wired to the vehicle battery as described in the *Mobile Collection Vehicle Preparation Guide (TDC-0382-xxx)*.



To connect power to the GoBook dock

1. Plug the red and blue end of the cable into the **LAPTOP DOCK** receptacle on junction box. Pull the silver tab on the power cable back, insert the connector into the junction box, twist the connector so the silver tab lines up with the labeling on the junction box, and release the tab to lock it into place.



2. Plug the pigtail end into the dock connector.



To connect power to the MC3

1. Plug one end of the cable into the **RF UNIT** receptacle on the junction box. Pull the silver tab on the power cable back, insert the connector into the junction box, twist the connector so the silver tab lines up with the labeling on the junction box, and release the tab to lock it into place.



2. Plug the other end into the **POWER IN** receptacle on the MC3.



Connecting the Antenna

Next, connect the omni-mount RF antenna to the radio.

This antenna has either a fixed-base that is permanently attached to the vehicle, or a magnetic base that can be attached to and removed from the vehicle as necessary.

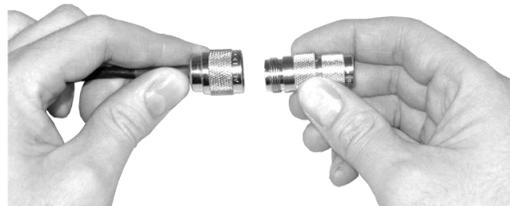
To connect the antenna

- Connect the omni-mount RF antenna cable to the MAIN ANTENNA connector on the MC3. Be sure to properly tighten the connector; a loose connection can lead to poor radio and read performance.



When using older antenna cables with type N connectors along with the MC3 radio, a type N to TNC adapter is required; this adapter is included in the MC3 kit.

Attach the adapter securely to both the antenna cable and MC3 to ensure optimal radio performance. Should you need another adapter or are not able to locate the adapter in the ship kit, you will need to contact your Itron representative or Customer Service (1.800.635.8725) to place an order for an adapter (part number CON-0419-001).



Connecting Side-Looker Antennas

The MC3 radio supports an additional set of antennas that help gather additional reads from endpoints located on the sides of the vehicle.

The side-looker antennas are an *optional* component of the MC3 system that can help improve read coverage in certain situations (contact your Itron representative for more information). Two additional antennas are connected to one antenna base, which is then installed on the vehicle.

Side-looker antennas attach to the top of the vehicle with several strong magnets. If your vehicle has a fiberglass top, the antennas may not bond securely to the vehicle; Itron *does not* recommend the use of side-looker antennas with fiberglass-topped vehicles.



To connect the side-looker antennas

1. Mount the side-looker antennas (2) on top of the vehicle, two feet in front of or behind the primary RF omni-mount antenna (1).



2. Route the antenna cables into the vehicle.

3. Remove the caps covering the side-looker antenna ports, identified by R and L on the MC3 radio in the vehicle.



4. Connect the side-looker antenna cables to the R and L antenna inputs on the MC3 radio.

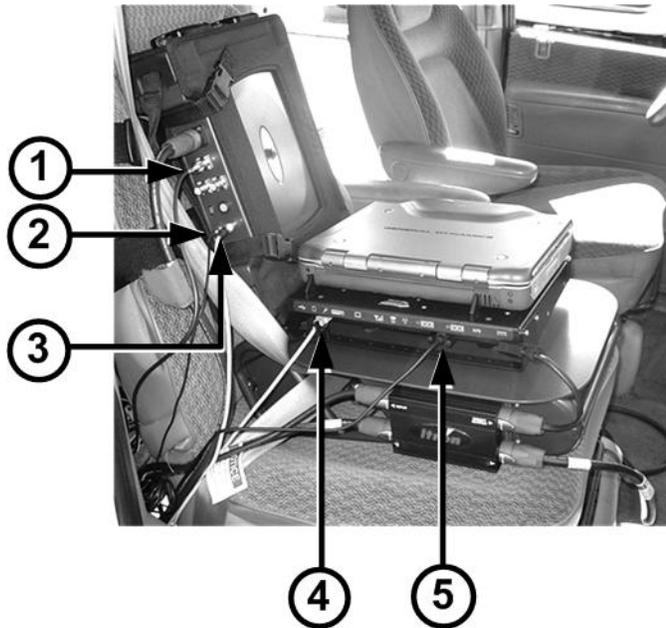


Connecting the Data Cables

There are two communications cables for receiving and transferring GPS and meter data between MC3 and the GoBook:

- A USB cable from the GoBook dock to the MC3
- A serial cable from the EkaNet radio to the GoBook dock (only for electric meter mobile demand reset).

The following picture shows a Mobile Collection system with all the data cables connected.



ID	Connection (Label)	Description
1	RF radio antenna (MAIN ANTENNA)	RF radio antenna connection on MC3 radio. Receives endpoint signals.
2	GPS antenna (GPS)	GPS antenna connection to MC3 radio. Receives GPS signal for vehicle location and tracking.
3	USB data cable (USB)	USB data output from MC3 radio. Data is transferred from the radio to the laptop through this cable.
4	USB data cable ()	USB data input on the laptop dock. Data from the MC3 radio is transferred to the Mobile Collection software running on the laptop.
5	Serial cable to EkaNetSerial port connection from the laptop dock to an optional EkaNet radio. The cable transfers data from EkaNet equipped endpoints to the laptop for mobile demand reset functionality.	

To connect the USB data cable

1. Ensure that the rectangular end of the USB cable (1) is inserted into the GoBook dock USB port.



The USB cable is connected to the dock at the factory and is secured with a cable tie. **DO NOT** remove this cable tie or unplug the USB cable from the dock. The cable tie helps ensure a secure connection and should never be disconnected. The cable tie also ensures that the correct COM port is used for GPS communications with the Mobile Interface software. Using a different USB port will prevent the MC3 radio from communicating properly with the software.



2. Plug the round end of the USB cable into the MC3 radio by pulling the connector sleeve back, plugging the connector in to the receptacle, and releasing the sleeve.



Attaching Older GoBooks to the MC3

This section explains how to connect older GoBook models to the MC3.

- **GoBook III** This GoBook can be attached directly to the vehicle dock, mounted on a pedestal by the driver or on a sled (similar to the GoBook XR-1).
- **GoBook MAX** This GoBook must be attached to the vehicle dock on a pedestal mount; no sled option is available.

Attaching the GoBook III to the Vehicle Dock

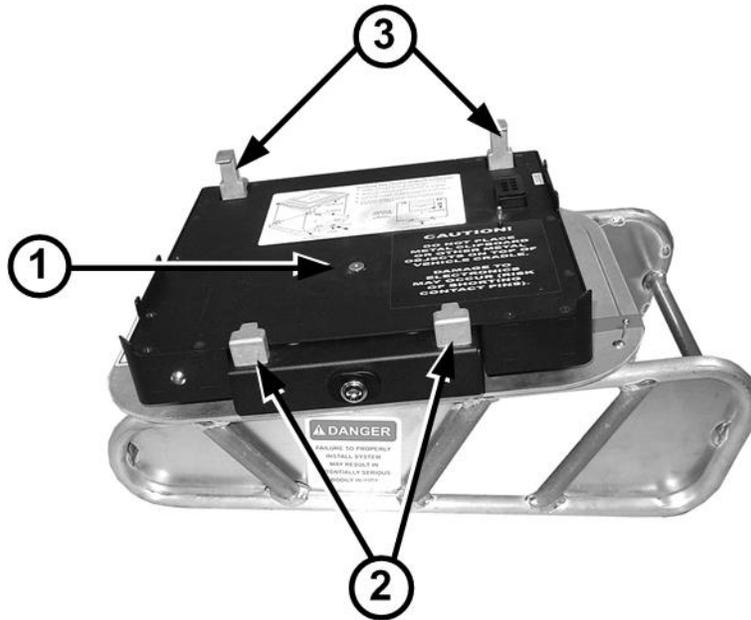
You can attach the GoBook III to a vehicle dock on a sled or pedestal near the driver. The vehicle dock must be installed on the sled or pedestal before attaching the GoBook III. Refer to the *Itronix Vehicle Cradle Installation Guide* for detailed instructions.



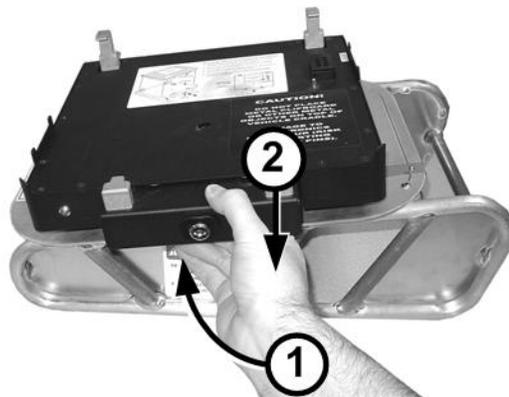
The Itronix documentation refers to the laptop receptacle as a *cradle*; Itron uses the term *dock* to identify this piece of equipment. The term *dock* is used repeatedly throughout this manual; however, *dock* and *cradle* are interchangeable.

To attach the GoBook III to the vehicle dock

1. Ensure that the vehicle dock is in the unlocked position. When locked, a steel pin (1) is visible on the top of the vehicle dock; this pin helps secure the GoBook III in place. When unlocked, this pin is not visible. The front (2) and rear (3) mounting guides are also extended out to the perimeter of the dock when unlocked.

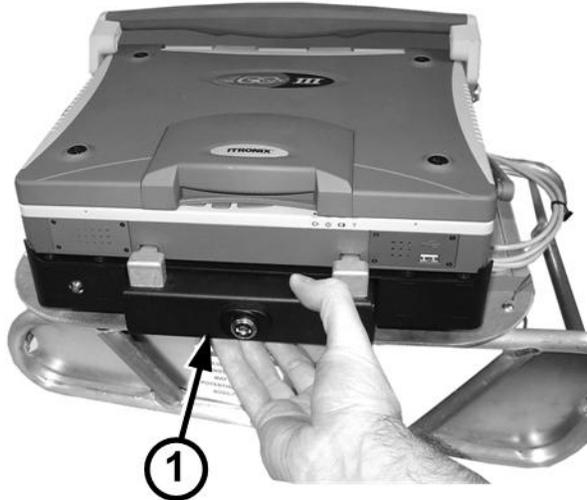


- To unlock the dock, push in underneath the locking mechanism (1) and then pull the handle out (2) as shown.



2. Lower the GoBook III onto the vehicle dock, making sure that the two rear locking mechanisms on the top of the vehicle dock fit into the mating holes on the GoBook underside.

3. Once the GoBook is properly aligned on the vehicle dock, push the locking mechanism in (1) to secure it. This locks the pin in place on the underside of the GoBook and also engages the mounting guides.



4. One end of the USB data cable comes attached to the vehicle dock; attach the other end to the USB port on the MC3.



The USB cable is connected to the dock at the factory and is secured with a cable tie. **DO NOT** remove this cable tie or unplug the USB cable from the dock. The cable tie helps ensure a secure connection and should never be disconnected. The cable tie also ensures that the correct COM port is used for GPS communications with the Mobile Interface software. Using a different USB port will prevent the MC3 radio from communicating properly with the software.



5. Connect the antennas and power cables for the MC3 as described earlier in this document.

Removing the MC3 System

At some point, you may need to remove the Mobile Collection system from the vehicle.



Before removing any Mobile Collection system components, be sure to stop the Mobile Interface software, shut down the GoBook, and turn off the vehicle power. See the *Mobile Collection User's Guide (TDC-0380-xxx)* for more information.

To remove the GoBook from the vehicle dock

1. Stop processing reads.
2. Complete routes.
3. Export routes.
4. Shut down all open applications and then shut down the GoBook.



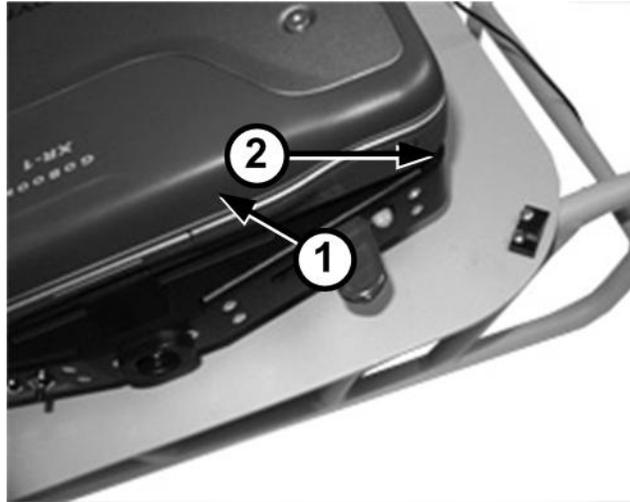
CAUTION If you accidentally disconnect the GoBook from the MC3 radio before shutting down Windows and the laptop, the following message appears:

Unsafe Removal of Device

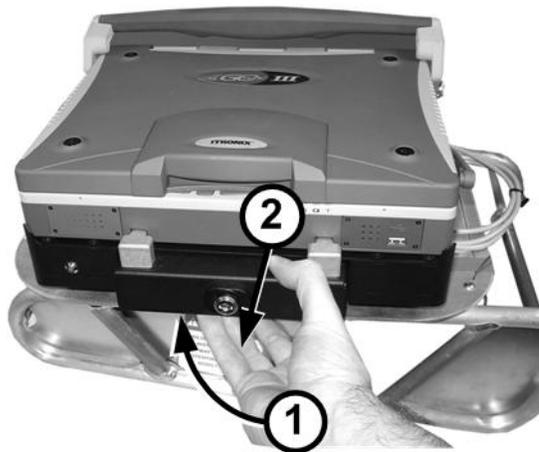
Before clicking **OK**, clear the **ShowUnplug/Eject** icon on the Taskbar box. If you do not clear this box, you will not be able to properly shut down the system in the future.

5. Close the GoBook screen.
6. Turn off the vehicle.
7. Disconnect any cables attached directly to the GoBook.
8. If unlocking the GoBook from the vehicle cradle:

- **GoBook XR-1** Push the locking mechanism in and slide it toward the keys on front of the dock (1), and then push it in a little further and pull it back to the starting position to unlock the dock (2).



- **GoBook III** Push in underneath the locking mechanism (1) and then pull the handle out (2) as shown.



9. Gently lift the GoBook up and away from the cradle.

Disconnecting the Cables

Disconnect the cables from the MC3 and leave them in the vehicle for the next installation of the system.

To disconnect the cables

1. Complete the procedure [To remove the GoBook from the vehicle dock](#) on page 26.
2. Unplug the cables from the MC3 radio.
3. Unplug all the cables from the GoBook dock EXCEPT for:

- The USB cable (both XR-1 and GoBookIII docks).
 - The power cable that is hard-wired to the dock for GoBookIII installations.
4. Unplug the cables from the sled or pedestal junction box.
 5. Release the mounting clips on the MC3 harness and remove the MC3 radio.
 6. Unbuckle the seat belt securing the sled to the passenger seat and remove the sled from the vehicle. Leave the pretensioner attached to the seat belt.

Using the Mobile Collection 2.x System

This chapter describes how to install and use legacy versions of the Mobile Collector radio.



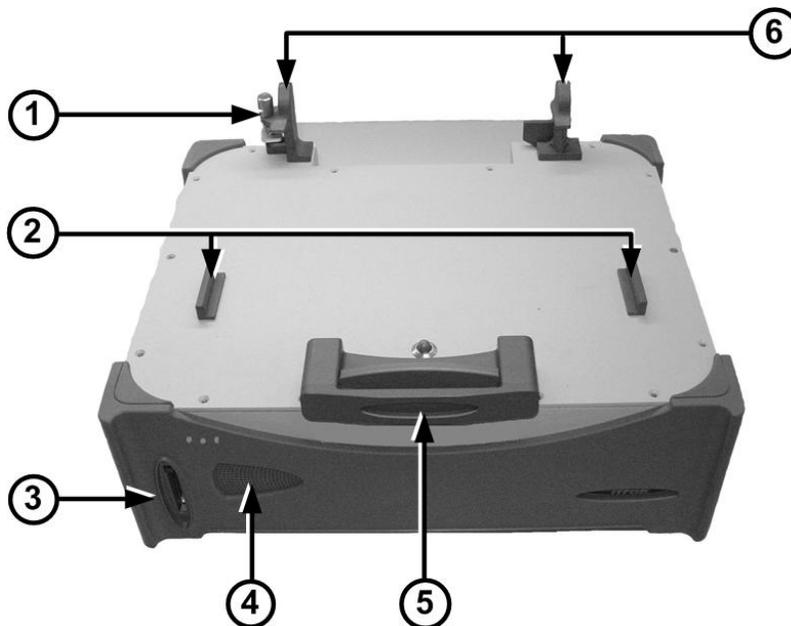
If your vehicle has a passenger-side airbag, Itron strongly recommends disabling it when the Mobile collection system is installed. The force of the airbag deploying could damage the laptop, radio, or other components of the system.

About the Mobile Collection 2.x System

The Mobile Collector 2.x radio houses the transmitter, receivers, and other electronics required to communicate with endpoints.

There are two versions of the Mobile Collector radio; one for use with the GoBook MAX and one for use with the GoBook III. Both versions contain the same features and functionality, but may look slightly different, depending on the version of GoBook you are using.

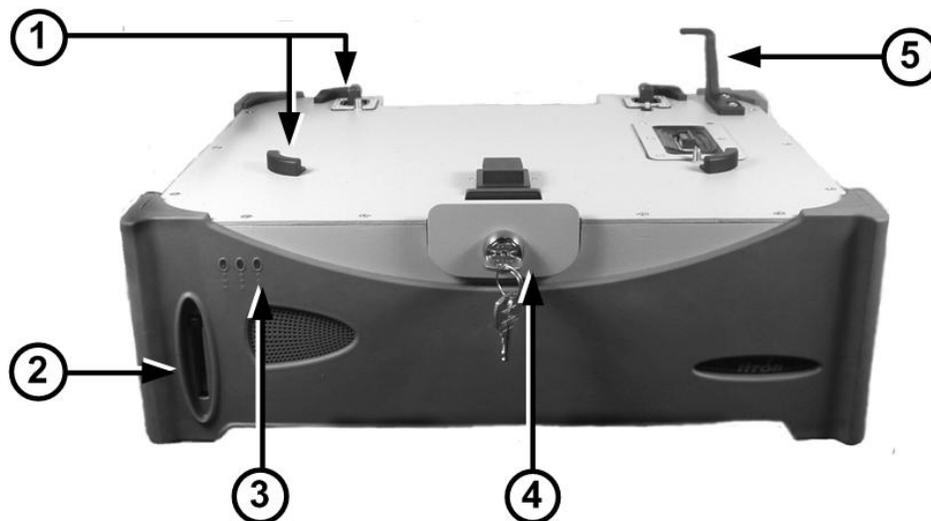
Mobile Collector 2.x Radio - GoBook III



ID	Component	Description
1	USB cable clip	Secures the USB cable that connects the GoBook III to the Mobile Collector radio. The cable clip prevents the USB cable from coming loose while driving a route.

ID	Component	Description
2	Mounting guides	Hold the GoBook in place, and assist you in placing the GoBook on the radio in the proper location.
3	Flash card reader	Provides data backups when configured through the Mobile Administration function.
4	LEDs	Indicate system power, operation, and flash card status.
5	Locking mechanism	Secures the GoBook to the top of the radio.
6	Screen rests	Provide support for the GoBook III screen.

Mobile Collector 2.x Radio - GoBook MAX



ID	Component	Description
1	Mounting guides	Hold the GoBook in place, and assist you in placing the GoBook on the radio in the proper location.
2	Flash card reader	Provides data backups when configured through the Mobile Administration function.
3	LEDs	Indicate system power, operation, and flash card status.
4	Locking mechanism	Secures the GoBook to the top of the radio.
5	Screen rest	Provides support for the GoBook MAX screen.

Flash Card Reader

Route data can be transferred to and from the Mobile Collector using a removable flash card (two CompactFlash® cards are supplied). The Windows operating system on the GoBook recognizes the flash card as a removable drive, allowing standard file access.

Periodic data backups to the flash card can be configured in the Mobile Administration application; see the *Mobile Collection Administration Guide (TDC-0381-001)* or *Online Help* for more information.

See the *Mobile Collection User's Guide (TDC-0380-xxx)* or *Online Help* for more information on using the flash card in day-to-day activities.

Compact Flash Cards

The Mobile Collection system includes two SanDisk CompactFlash cards. If you require more cards, you may purchase them through Itron or through electronics stores or distributors.



Use of unapproved cards can result in loss of data.

If you purchase additional cards from a distributor or electronics retailer, Itron recommends the following:

- 64M SanDisk Industrial Grade, Extended Temperature range
- 64M Hitachi Renesas, Industrial Grade, Wide Temperature, or Extended Temperature range

LEDs

Three LEDs signal system power, system operation, and flash card status. Errors relating to the transmitter and receivers display on the GoBook within the Mobile Interface.

The table below describes the LED status indicators.

LED	Color	Description
Power/Error 1	Red	Voltage error condition
	Flashing Green	Vehicle accessories power on, ignition off
	Green	Vehicle ignition on
	None	System is shutting down or completely off
Operate/Error 2	Red	Temperature error condition

LED	Color	Description
	Green	Operating normally
	None	System is shutting down or completely off
Flash Card	Red	Data transferring to/from the flash card reader
	None	System is shutting down or completely off

Locking Mechanism

The locking mechanism attaches the GoBook to the Mobile Collector. Locking the GoBook to the Mobile Collector reduces the likelihood of the GoBook separating from the Mobile Collector in the event of a collision.

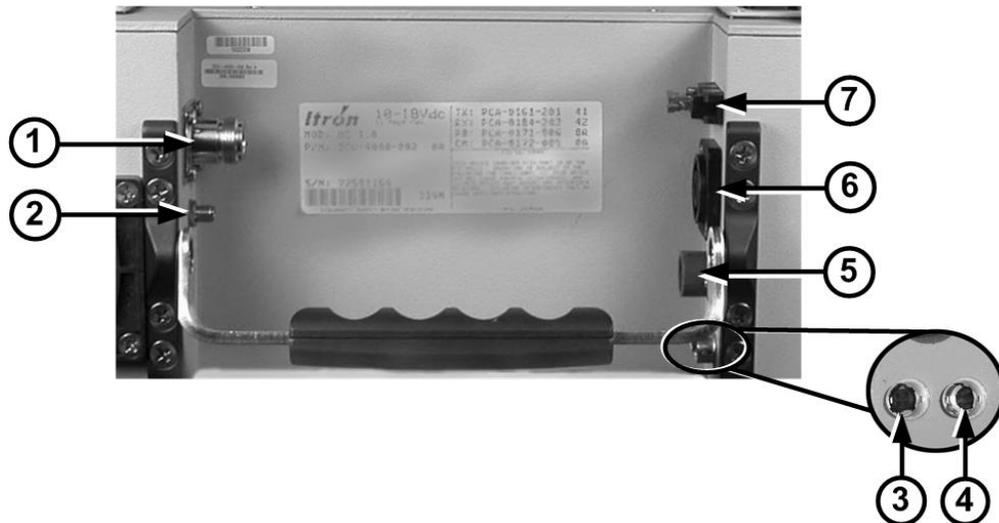
The GoBook MAX has a keyed locking mechanism; the GoBook III has a keyless locking mechanism.



WARNING! Do not set down the Mobile Collector on its front face while carrying it by the handle or at any time. Doing so may damage the flash card reader or the flash card, or may break off the key if it was left in the mounting lock.

Rear Connectors

The rear of the Mobile Collector 2.x radio contains the power and communications connectors.



ID	Connector	Description
1	RF antenna	<p>Connects to the roof-mounted antenna. See the Mobile Collection Vehicle Preparation Guide.</p> <p>Itron provides a magnetic mount option for the RF antenna. This magnetic mount is intended as a temporary solution and it is for emergency use only. Long-term use of a magnetic mount antenna could adversely affect system performance and is not a supported configuration of this product.</p>
2	GPS antenna	<p>Connects to the externally-mounted GPS antenna. This gold-plated connector is used with the optional Mapping feature of the Mobile Interface software.</p>
3	USB	<p>Connects the GoBook III computer to the radio for data transfer.</p> <p>Also for use with a GoBook computer not mounted directly to the Mobile Collector radio. See Vehicle Dock / Pedestal Option on page 37 for more information.</p> <p>Mobile Collector radios for use with the GoBook MAX have a USB data connection built into the radio lid.</p>
4	GPS receiver	<p>Connects to an external GPS receiver box when using a version 2.0 radio.</p> <p>Version 2.5 radios have a GPS receiver built into the Mobile Collector, so this connector is not used with a 2.5 radio.</p>
5	GoBook III power	<p>Provides power to the GoBook III laptop.</p> <p>Mobile Collector radios for use with the GoBook MAX have a power connection built into the radio lid.</p>
6	Power in	<p>Receives power from the vehicle and distributes it to the radio and GoBook.</p> <p>In addition to wiring the power cable directly to the vehicle, a cigarette lighter power cable is available for emergency use only. Using this cable will disable the power management functions of your Mobile Collector and could adversely affect system performance.</p> <p>ALWAYS disconnect this cable from the power source when not in use. Failure to do so could result in a dead vehicle battery.</p>
7	Fuse holder and fuse	<p>Provides over-current protection for the radio. Holder accepts standard automotive 12V (15 amp) ATO fuse (included) to protect internal circuitry from power surges by the vehicle.</p>

Mobile Collector Sled

The Mobile Collector sled is a mounting bracket designed to secure the Mobile Collector radio in the vehicle and support it and the GoBook in an upright position on the passenger seat.



GoBook Mounting Systems

There are two mounting options for the GoBook:

- **Direct Mount Option** The GoBook mounts directly on the Mobile Collector.
- **Vehicle Dock / Pedestal Option** The GoBook mounts remotely on a free-standing pedestal, using the Itronix vehicle cradle.



The Itronix documentation refers to the laptop receptacle as a *cradle*; Itron uses the term *dock* to identify this piece of equipment. The term *dock* is used repeatedly throughout this manual; however, *dock* and *cradle* are interchangeable.



WARNING! Improperly installed or secured components may result in injury or death in the event of a collision. Install and secure the system components in accordance with this document, the Mobile Collection Vehicle Preparation Guide, the Mobile Collection Sled and Pretensioner Installation Guide, manufacturer installation instructions, and applicable safety standards.

Direct Mounting Options

The GoBook communicates with the Mobile Collector and receives power from it through the mounting connector, providing fast, easy docking and removal, without additional cables.

The GoBook MAX mounts onto the Mobile Collector radio within the mounting guides so that the mounting connector and the external modem connector insert into mating connectors on the underside of the GoBook. A key inserted into the locking mechanism turns clockwise to lock the GoBook in place.

The GoBook III mounts onto the Mobile Collector radio within the mounting guides, but communicates through a USB cable and is powered from a cable connected to the Mobile Collector.

Vehicle Dock / Pedestal Option

Optionally, you may mount the GoBook on a vehicle cradle that is attached to a pedestal. This option allows you to position the Mobile Collector in the vehicle so that it is closer to the driver, while placing the Mobile Collector and its base elsewhere in the vehicle. A key inserted into the locking mechanism turns clockwise to lock the GoBook MAX in place; a similar mechanism will be available for use with the GoBook III.

Installing the Mobile Collection 2.x System

This section shows you how to properly install a Mobile Collection 2.x system, with either a GoBook III or a GoBook MAX.

Attach the Mobile Collector 2.x to the Sled

A plate installed on the underside of the Mobile Collector contains holes and slots that mate with the pins on top of the sled. Attach the Mobile Collector to the sled by lowering it onto the pins and rotating it so that the pins slide into the slots, locking the Mobile Collector in place.

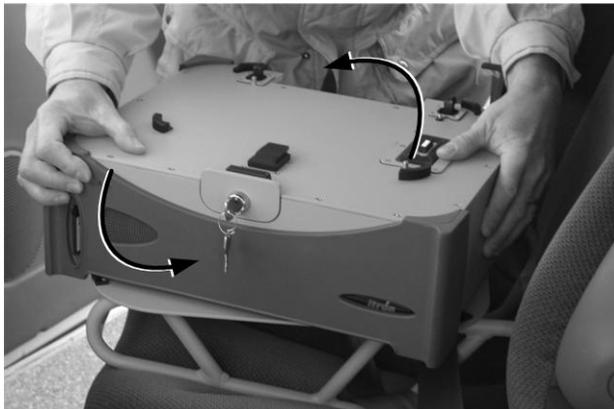
To attach the Mobile Collector to the Sled

1. Hold the Mobile Collector over the base and orient it so that the right rear corner faces the passenger door.

2. Lower the Mobile Collector onto the sled and gently move it around until the center pin on the base snaps into the center hole on the underside of the Mobile Collector.



3. While gently applying downward pressure, rotate the collector back and forth slightly until the three pins on the base fit into the three matching holes on the underside of the Mobile Collector.
4. Grip two corners of the Mobile Collector that are opposite each other diagonally and rotate it counter-clockwise until you hear the locking pin snap into the underside of the Mobile Collector.



When finished, the rear of the Mobile Collector should be flush with the side of the base and its rear connectors should face the passenger door.



Connect the Antennas and Power Cables

The RF antenna, GPS antenna, and Mobile Collector power cable should be pre-installed in the vehicle and routed to where the Mobile Collector will be installed.



The GPS system for version 2.x Mobile Collectors is an optional component that is part of the Mapping system. If your installation does not include Mapping, simply attach the RF antenna and the power cable in the procedure below; ignore the steps related to the GPS antenna.

This section shows you how to connect the antennas and the power cable to the rear of the Mobile Collector radio.

To connect the antennas and power cables

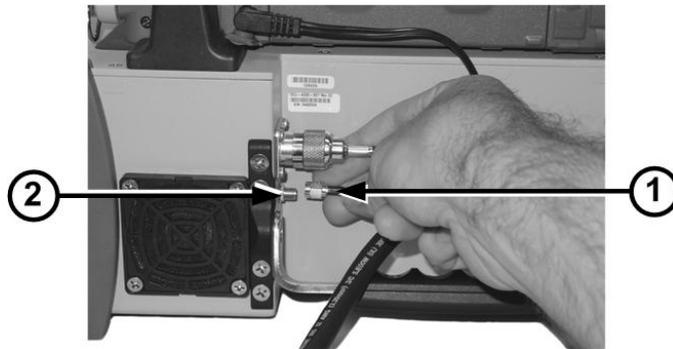
1. Plug the power cable (1) into the power connector on the Mobile Collector.
2. Attach the pre-wired RF antenna cable (2) and turn the knurled part of the antenna cable clockwise until the cable is firmly attached.





If the power cable does not reach the Mobile Collector, use the optional extension cable to extend the length (extension cables may be purchased from Itron). Plug the power cable into one end of the extension cable and plug the other end of the extension cable in to the Mobile Collector. Be sure both ends snap into their respective connectors.

3. Attach the GPS cable to the connector. Both the end of the cable and the connector are gold-plated for easy identification.



Attach the GoBook to the Mobile Collector 2.x

This section shows you how to connect both the GoBook MAX and GoBook III to the Mobile Collector radio. The GoBook may be either attached directly to the Mobile Collector radio or attached to a vehicle cradle mounted on a pedestal by the driver (for more information, see [GoBook Mounting Systems](#) on page 36).

To attach the GoBook to the Mobile Collector, follow the steps in one of the following sections:

GoBook MAX Procedures	GoBook III Procedures
Attach the GoBook MAX to the Mobile Collector on page 40	Attach the GoBook III to the Mobile Collector on page 41
Attach the GoBook MAX to the Vehicle Dock on page 43	Attach the GoBook III to the Vehicle Dock on page 44

Attach the GoBook MAX to the Mobile Collector

Follow these steps to mount the GoBook MAX onto the Mobile Collector.



Before attempting to mount the GoBook onto the Mobile Collector, be sure to unlock the locking mechanism.

To attach the GoBook MAX to the Mobile Collector

1. From the driver's side of the vehicle, align the GoBook MAX with the four mounting guides on top of the Mobile Collector.

2. Angle the top of the GoBook MAX towards the passenger door, as shown below, and lower it so that the two rear connectors (1) on the Mobile Collector top fit into the mating holes on the GoBook MAX underside.
3. Lower the GoBook MAX onto the Mobile Collector within the mounting guides (2) until the underside of the GoBook MAX is flush with the top of the Mobile Collector.

If necessary, gently move the GoBook MAX slightly from side to side to ensure the connectors on top of the Mobile Collector mate with those on the underside of the GoBook MAX.



4. Insert the key into the mounting lock and press the locking mechanism so it engages the GoBook MAX.



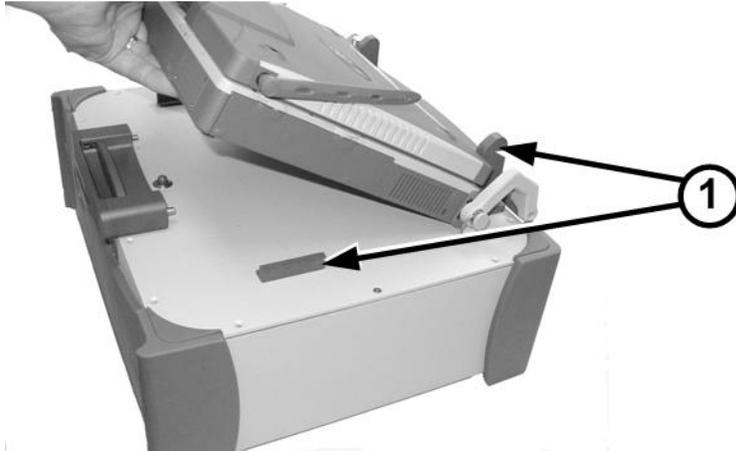
5. Turn the key clockwise to lock the GoBook MAX in place.
6. Remove the key from the lock so that it is not stolen or accidentally broken.
7. Lift the GoBook MAX screen up and gently push it back so that it rests on the Mobile Collector screen rest.

Attach the GoBook III to the Mobile Collector

Follow these steps to mount the GoBook III onto the Mobile Collector.

To attach the GoBook III to the Mobile Collector

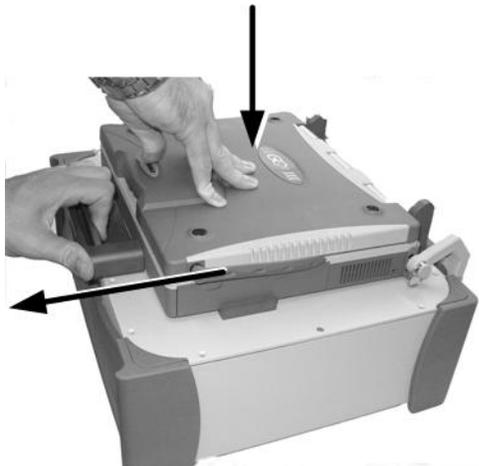
1. From the driver's side of the vehicle, align the GoBook III with the two mounting guides (1) on top of the Mobile Collector.
2. Angle the GoBook III towards the passenger door, as shown below, and slide it under the mounting guides (1) toward the back of the Mobile Collector.



3. Lower the GoBook III onto the Mobile Collector within the mounting guides until the underside of the GoBook III is flush with the top of the Mobile Collector.

If necessary, gently move the GoBook III slightly from side to side to ensure the connectors on top of the Mobile Collector mate with those on the underside of the GoBook III.

4. With one hand, pull on the locking mechanism to release it. With the other hand, gently push down on the top of the GoBook III, as shown below.



5. Release the locking mechanism to lock the GoBook III in place.
6. Attach the necessary USB and power cables from the Mobile Collector to the GoBook III.
7. Secure the USB cable in place by tightening the metal cable clip.

8. Lift the GoBook III screen up and gently push it back so that it rests on the Mobile Collector screen rest.

Attach the GoBook MAX to the Vehicle Dock

As part of an optional remote installation, you may attach the GoBook MAX to a vehicle dock on a pedestal near the driver. The vehicle dock should be pre-installed. Refer to the *Itronix Vehicle Cradle Installation Guide* for detailed instructions.



The Itronix documentation refers to the laptop receptacle as a *cradle*; Itron uses the term *dock* to identify this piece of equipment. The term *dock* is used repeatedly throughout this manual; however, *dock* and *cradle* are interchangeable.

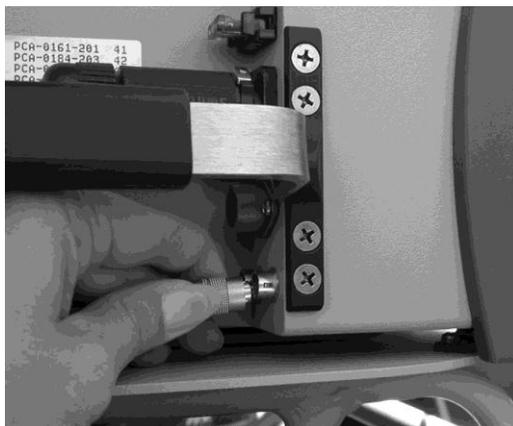
To attach the GoBook MAX to the vehicle dock

1. Angle the top of the GoBook MAX and center on the vehicle dock mounting guides, then lower it so that the two rear locking mechanisms on the vehicle dock top fit into the mating holes on the GoBook MAX underside.
2. Lower the GoBook MAX onto the vehicle dock within the mounting guides until the underside of the GoBook MAX is flush with the top of the vehicle dock.
3. Insert the key into the mounting lock.
4. Press the locking mechanism so it engages the GoBook MAX.
5. Turn the key clockwise to lock the GoBook MAX in place.



Remove the key from the lock so that it is not accidentally broken or stolen.

6. Plug the vehicle dock cable into a vehicle dock USB port. Two USB ports are located on the back of the vehicle dock.
7. Plug the vehicle dock cable into the Mobile Collector radio by pulling the SMA connector sleeve back, plugging the connector in to the Mobile Collector as shown, and releasing the sleeve.

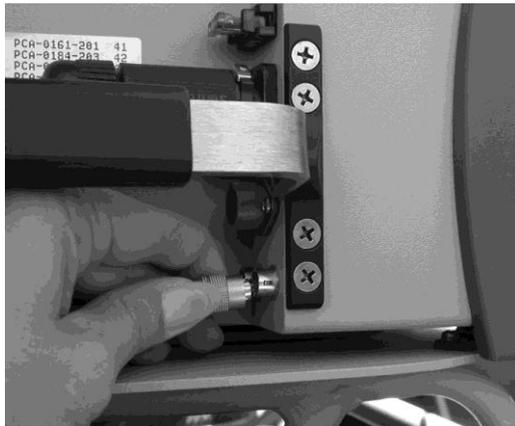


Attach the GoBook III to the Vehicle Dock

As part of an optional remote installation, you may attach the GoBook III to a vehicle cradle on a pedestal near the driver. The vehicle cradle should be pre-installed. Refer to the *Itronix Vehicle Cradle Installation Guide* for detailed instructions.

To attach the GoBook III to the vehicle dock

1. Lower the GoBook III onto the vehicle dock. Be sure to align it within the front and rear guides on the dock. The front of the laptop should face the locking mechanism on the front of the dock.
2. Push in the handle on the front of the dock to engage the locking mechanism and secure the GoBook to the dock.
3. Push in the keyed part of the locking mechanism to further lock it and prevent theft of the GoBook.
4. Plug one end of the USB cable into one of the two available ports on the back of the vehicle dock. The port uses a standard USB connector.
5. Plug the vehicle dock USB cable into the USB port on the Mobile Collector by pulling the SMA connector sleeve back, plugging the connector in to the Mobile Collector, and releasing the sleeve. This port uses an SMA connector.



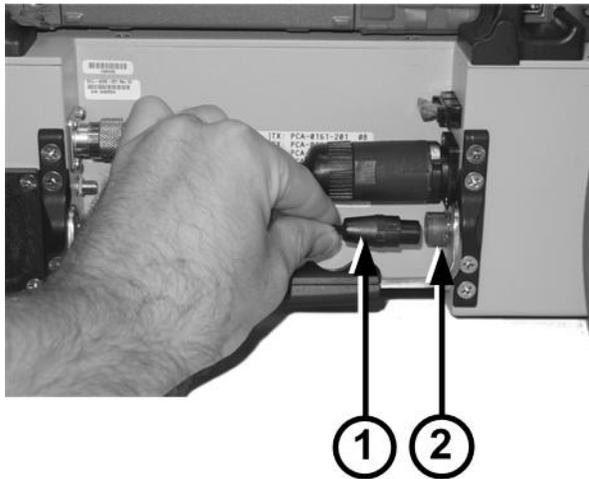
Connect the GoBook III Power Supply and USB Cable

The GoBook III receives power from the Mobile Collector radio itself, through a simple power cable connection. In versions of the Mobile Collection system that use a GoBook MAX, the power and data connections are integrated into the top of the Mobile Collector radio.

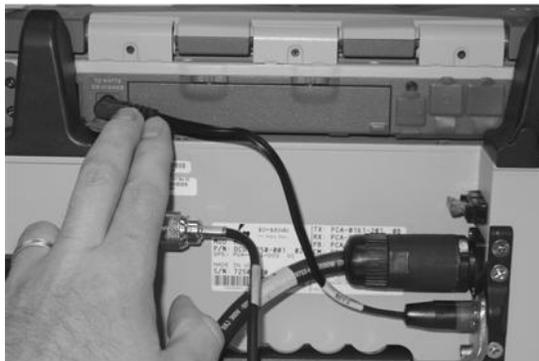
For the GoBook III, additional cables must be attached to provide the laptop with power and a data connection. The USB cable is used to provide data collected by the Mobile Collector radio to the Mobile Interface application running on the GoBook III.

To connect the GoBook III power supply and USB cable

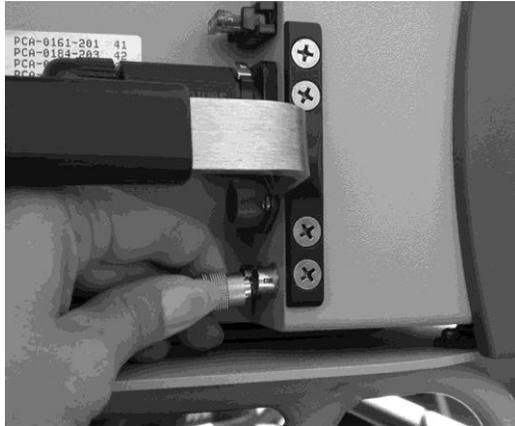
1. Attach the end of the GoBook III power cable (1) to the blue connector on the back of the Mobile Collector radio (2); this connector is located beneath the main power supply.



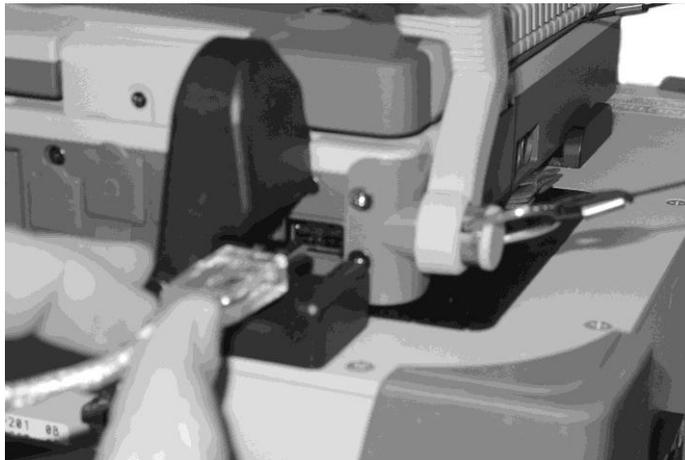
2. Attach the other end of the power cable to the connector on the back of the GoBook III.



3. Plug the USB cable into the Mobile Collector radio by pulling the SMA connector sleeve back, plugging the connector in to the Mobile Collector as shown, and releasing the sleeve.



4. Connect the USB cable to the back of the GoBook III as shown below.



5. Route the USB cable through the channel on the back of the Mobile Collector radio mounting guide. Press the cable down into the channel to make sure it is secure.

This ensures data communication between the GoBook III and the Mobile Collector radio while you are driving a route.



Using the Flash Card in Mobile Collector 2.x Systems

You can import route files to the Mobile Interface database and export the collected data using a removable flash card in the Mobile Collector flash card reader.



The default drive letter for the flash card reader will vary, depending on the type of GoBook used in your system configuration.

- **GoBook MAX** When using the GoBook MAX, the card reader defaults to drive *F:*.
- **GoBook III** When using the GoBook III (which may include an optional 3-slot external reader), the card reader can be any of the following drives: *G:*, *H:*, and *I:*. The actual letter used will vary depending on when various peripherals are connected to the system. Always ensure you are accessing the proper drive.

Insert the Flash Card

Follow these steps to insert the flash card.



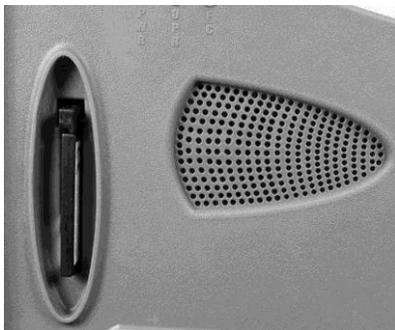
WARNING! If you do not hold the flash card correctly, the flash card will not insert into the reader. Forcing the flash card into the reader may damage the reader by bending the connector pins.

To insert the flash card

1. Hold the flash card as shown to insert it into the Mobile Collector Flash Card Reader.



2. Insert the card in the flash card reader slot and press it in until it is firmly in place and the eject button pops out.



Remove the Flash Card

Follow these steps to remove the flash card.



Before removing the flash card, shut down the GoBook. Failure to do so could result in data loss on your flash card.

To remove the flash card

1. Shut down the GoBook.
2. Press the eject button on the flash card reader.
3. Gently pull the flash card out of the flash card reader slot.

Removing the Mobile Collection 2.x System

At some point, you may need to remove the Mobile Collection system from the vehicle. Perform the following tasks to remove the Mobile Collection system.



Before removing any Mobile Collection system components be sure to stop the Mobile Interface and shut down the GoBook.

Unlock and Remove the GoBook

Follow these steps to remove the GoBook from the Mobile Collector or vehicle cradle. The following procedure can be used with either the GoBook MAX or GoBook III.

To unlock and remove the GoBook

1. Shut down any open applications and then shut down the GoBook.
2. Close the GoBook screen.
3. Disengage the GoBook locking mechanism:
 - **GoBook MAX** Insert the key in the locking mechanism and turn it counter-clockwise. Pull the key and the mounting lock towards you so the locking mechanism is disengaged from the GoBook.
-> If unlocking the GoBook MAX from the vehicle cradle, push in underneath the locking mechanism and then pull the mechanism out.



- **GoBook III** Disconnect any cables from the back of the GoBook III. Pull the locking mechanism out, away from the GoBook III.



-> If unlocking the GoBook III from the vehicle dock, push up and in on the underside of the locking mechanism, and then pull the mechanism out to release it.

4. Gently lift the GoBook up and away from the Mobile Collector radio or vehicle dock.



CAUTION If you accidentally disconnect the GoBook from the MC3 radio before shutting down Windows, the following message appears:

Unsafe Removal of Device

Before clicking **OK**, clear the **ShowUnplug/Eject** icon on the Taskbar box. If you do not clear this box, you will not be able to properly shut down the system in the future.

Disconnect the Cables

Unplug the cables from the Mobile Collector and leave them for the next installation of a Mobile Collection system, if desired.

To disconnect the cables

1. Complete [Unlock and Remove the GoBook](#) on page 49.
2. Unplug the cables from the Mobile Collector. This includes the USB cable, power cable, and any antenna cables.

Remove the Mobile Collector from the Sled

When you attached the Mobile Collector to the sled, a locking pin snapped into the underside of the Mobile Collector. To remove the Mobile Collector, you must reach underneath the top of the sled and pull down on the locking pin while rotating the Mobile Collector slightly.

To remove the Mobile Collector from the sled

1. From the passenger side of the vehicle, reach underneath the top of the base and locate the locking pin knob.
2. Use one hand to pull the knob down, and use the other hand to push a corner of the Mobile Collector in a clockwise direction.
3. Continue pulling the knob down and pushing until the pin can no longer snap into the underside of the Mobile Collector.
4. Grip two corners of the Mobile Collector that are opposite each other diagonally and rotate it clockwise until you cannot rotate it further.
The right rear corner of the Mobile Collector faces the passenger-side door when the Mobile Collector cannot be rotated further.
5. Lift the Mobile Collector off the base.
6. Unfasten the seat belt and pretensioner and lift the base off the seat.

Upgrading to a GoBook XR-1 Laptop

If you are upgrading from a GoBook MAX or GoBook III laptop that was originally mounted on top of the MC2.5 Radio to a GoBook XR-1 laptop that is mounted on a pedestal, use the following instructions. The MC2.5 radio remains mounted on the existing sled.



Note Before you begin, keep in mind that the MC2.5 Radio will remain the same. The MC2.5 Radio will still be mounted on the sled, and all the cabling will not change.

The XR-1 laptop upgrade kit contains the following items:



- GoBook XR-1 laptop
- Vehicle docking station
- Pedestal mounting bracket; pedestal not included
- Power distribution box; small box with the Itron logo
- Cables to connect the MC2.5 Radio to the XR-1 docking station and power distribution box (CBA-0269-001, CBA-0332-002, and CBA-0187-004)
- Peripherals (not pictured): Screen cloth and the USB flash drive

To Install the Pedestal Mount

1. Install the pedestal mount between the driver and passenger seats.



2. Place the mount and brackets for the power distribution box in the middle of the pedestal. Tighten securely.



3. Remove the two screws in the top mounting bracket.



Top mounting bracket and screws

4. Position the distribution box against the bottom bracket.

5. Place the top bracket on the power distribution box and screw the top mounting bracket back in.



To Connect the Dock to the Pedestal Mount:

Place the vehicle dock onto the pedestal mount and securely tighten.



To Mount the XR-1 GoBook to the Docking Station

1. When positioning the XR-1 GoBook onto the dock, put the front end in first.
2. Make sure that the holding bracket is snug against the front and press down on the laptop.



3. Push the locking lever in and to the right to secure the laptop on the dock.

Locked



Unlocked



To Connect to the Power Distribution Box:

1. Use the existing power cable and connect into the **Power In** slot.



2. Use the CBA-0269-001 cable to connect the power distribution box to the RF unit in the **RF Unit** slot.



3. Use the CBA-0332-002 cable to connect the power distribution box to the vehicle dock in the **Laptop Dock** slot.



When you are finished, the power distribution box should look like the example below.



Connecting to the Vehicle Dock

1. Connect the other end of CBA-0332-002 cable to the vehicle dock. This is the smallest of the three cables.



2. Connect the other end of the CBA-0187-004 cable. This cable will come pre-wired to the vehicle dock with a clip to hold the cable in place.



Take the other end of the CBA-0187-004 cable and connect it to the RF unit.



When you have completed the installation, your hardware should look like the example below.



Using the EkaNet System

The EkaNet™ system is an optional component that can be used with the Mobile Collection system. An additional antenna and radio are used to communicate with Eka-equipped endpoints in the field to enable mobile demand reset functionality.



This chapter shows you how to install the EkaNet hardware components in a vehicle and then connect them to the Mobile Collection system. In order to use the mobile demand functionality in the Mobile Interface, a separate software installation must be performed on the GoBook. See your system administrator for more information.

EkaNet System for Mobile Demand Reset

The EkaNet radio is only required if you are using Itron Advanced Drive-by AMR (mobile demand reset) for electric meters. It is ordered separately from the Itron Mobile Collection system.



WARNING! Keep at least two feet away from the EkaNet antenna when it is transmitting.

The EkaNet antenna should be at least four feet away from the regular Mobile Collection RF antenna to prevent interference.



For more information about the EkaNet system, see the:

- EkaNet Mobile Collector Hardware Installation Manual (document number 10250)
- EkaNet Mobile Collection Software Manual (document number 10223)

By default, these documents are stored in the following location:

C:\Program Files\Eka\EkaNet Mobile\doc

EkaNet Compatibility

The following table lists the versions of Mobile Collection hardware (radio and laptop) that are compatible with the EkaNet system.



Mobile Collection v3.0 software is required for the EkaNet system. Although older versions of hardware can support the system, you must use v3.0 software.

Laptop	Radio Version	EkaNet Compatible?
GoBook MAX	2.0	No

Laptop	Radio Version	EkaNet Compatible?
GoBook MAX	MC3	No
GoBook III	2.5	Yes
GoBook III	MC3	Yes
GoBook XR-1	2.5	Yes
GoBook XR-1	MC3	Yes

About the EkaNet Components

The following components are a part of the optional EkaNet system. These components need to be installed in the vehicle.



ID	Item	Description
1	EkaNet radio	Routes data received by the antenna to the laptop running the Mobile Interface software, with EkaNet software enabled.
2	Radio pouch	Secures the radio in the vehicle. The pouch connects to the MC3 radio harness.
3	EkaNet antenna	Receives data from Eka-enabled endpoints in the field. The antenna should be installed 4 feet away from the main Mobile Collection RF antenna.
* Not Pictured	Cables	A power cable from the Mobile Collection junction box supplies the radio with power. A serial cable from the radio to the laptop transfers data.

Installing the EkaNet System

Follow the steps below to connect the EkaNet system.

To connect the EkaNet system

1. Attach the external EkaNet antenna to the top of the vehicle. It should be placed at least four (4) feet away from the main Mobile Collector RF antenna to prevent interference.

This antenna uses a powerful magnet to attach to the vehicle.

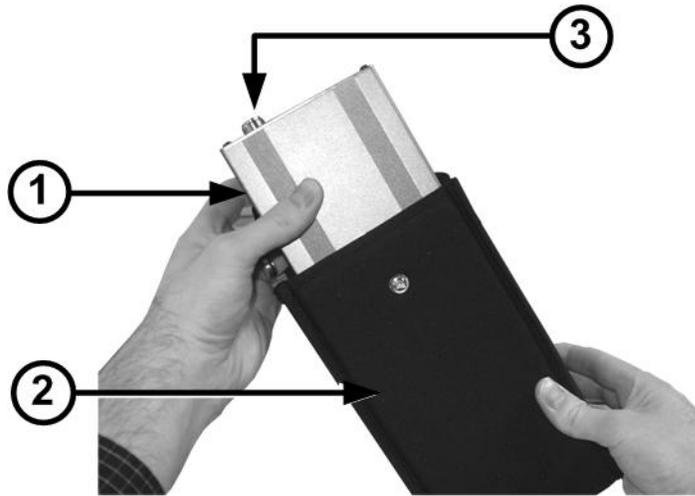


2.



Using a magnetic-mount antenna on a fiberglass-roofed vehicle is not recommended. The antenna may come loose during transit and be damaged. It could also be a hazard to others if it falls off the roof of a moving vehicle.

3. Insert the EkaNet radio (1) into the pouch (2). The antenna connector (3) must face the top of the pouch.



4. Close the pouch flap over the radio and snap it shut to secure the EkaNet radio.
5. Clip the EkaNet pouch to a harness strap on the back of the seat where the Mobile Collection system is installed.
 - If you are using an MC3 system, clip the pouch to one of the straps that secure the MC3 radio to the seat. This setup is shown in the picture below.
 - If you are using a Mobile Collection 2.x system, a black fabric strap is included with the EkaNet pouch. Route and buckle this strap horizontally around the passenger seat, and then clip the pouch to it.



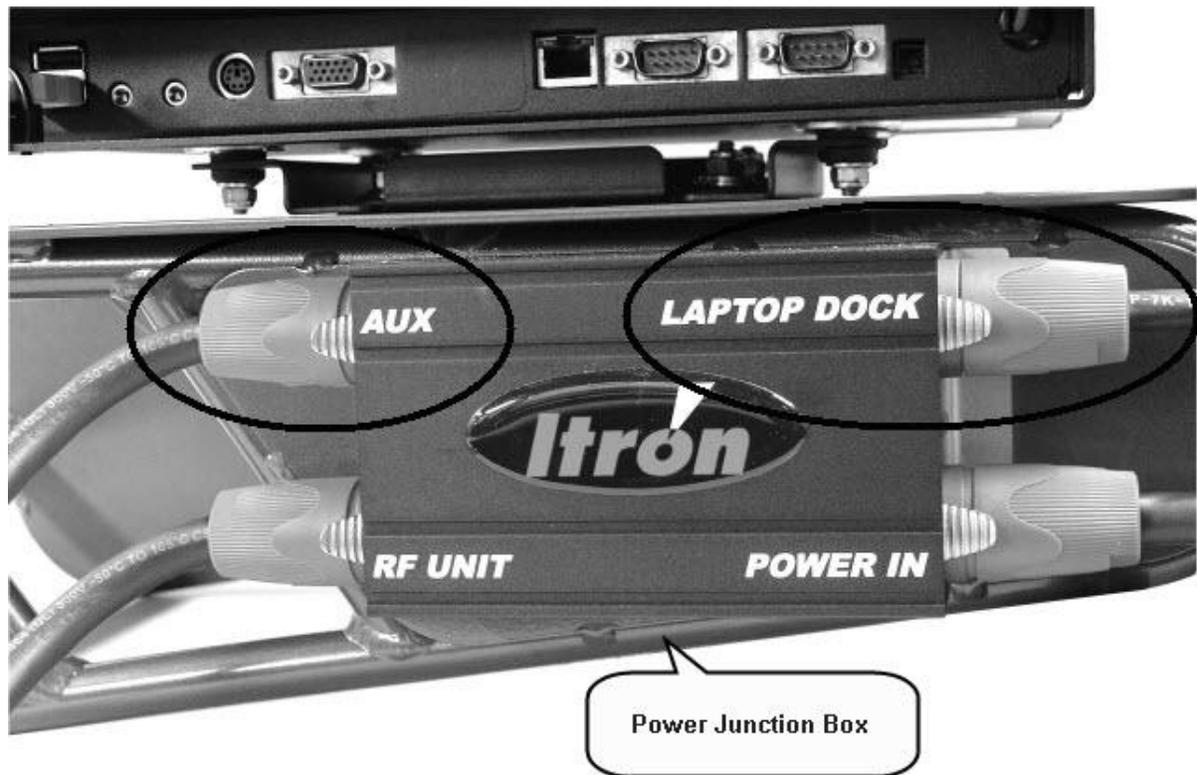
6. Connect the EkaNet antenna cable to the top of the radio. Note that in the following example, the pouch and vehicle have been removed for emphasis.



7. Connect the EkaNet power cable to the **AUX** port on the junction box in your vehicle.



If you do not have a junction box in your installation, power will need to be hard-wired from the vehicle's battery to the radio; see your system administrator for assistance.



Note The Laptop Dock, as shown above, is only used with an MC3 radio. There is not a connected cable attached to the laptop dock with an MC 2.x radio.

The Power Junction box, as shown above, is only used with an MC3 radio. For an MC2.x radio, the Power Junction box needs to be ordered to supply power to the EkaNet radio.

8. Connect the other end of the power cable to the port on the bottom of the radio. Note that in the following example, the pouch, vehicle, and other cables have been removed for emphasis.



9. Connect the serial cable to COM 1 serial port on the laptop (or dock); this is the end without pins. Be sure to securely connect the cable.
 - For the GoBook XR-1, the serial port is located on the right-hand side of the laptop (9-pin male connector).
 - For the GoBook III, the serial port is located on the back of the laptop (9-pin male connector).

10. Connect the other end of the serial cable to the bottom of the EkaNet radio; this is the end with pins. Be sure to securely connect the cable. Note that in the following example, the pouch, vehicle, and other cables have been removed for emphasis.



When you have finished, the system should look similar to the example below.



Removing the EkaNet System

When you have finished collecting data with the EkaNet system, you can remove it from your vehicle.

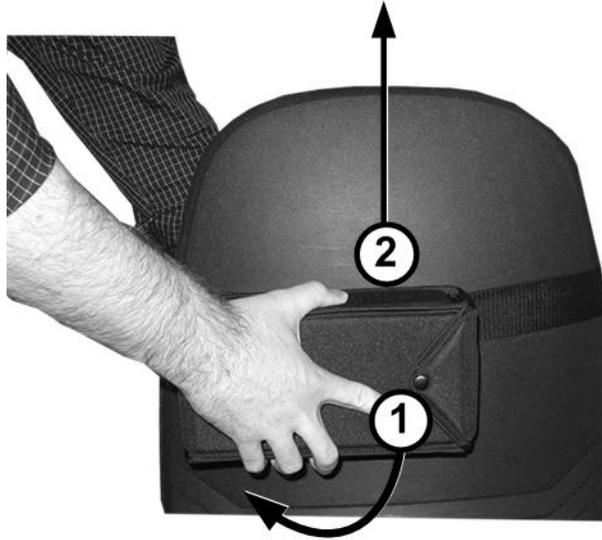
To remove the EkaNet system

1. Ensure that the vehicle is turned off.
2. Ensure that the GoBook has completed processing reads and is properly shut down.
3. Disconnect the following from the EkaNet radio inside the vehicle:
 - Antenna (connected to the top of the radio and pouch).
 - Power and serial communications cables (located on the bottom of the radio and pouch).



4. Remove the radio and pouch from the vehicle. You can either:
 - Unclip the pouch from the strap it is attached to. Then unbuckle the strap and store it with with EkaNet radio and pouch.

- Leave the clip attached to the strap, but remove the pouch from the clip assembly. To do so, rotate the pouch clockwise 90-degrees (1) and then pull it straight up (2). The clip and strap can remain in the vehicle.



CHAPTER 4

System Maintenance

This chapter introduces you to some of the basic maintenance procedures that should be performed regularly to ensure optimal performance of your Mobile Collection system.

For more information, see:

- MC3 Systems
- Mobile Collection 2.x Systems
- GoBook Maintenance
- Antenna Maintenance

RF Antenna Maintenance

The following procedures should be followed to ensure that the RF omni-mount antenna for your Mobile Collection system is operating properly.

Cleaning

In order to maintain both the performance and the appearance of your omni-mount RF antenna, regular cleaning is recommended. Clean the antenna in the same manner as your vehicle. Applying a quality car wax to the antenna and base will help protect the finish and extend the life of the antenna.

Replacing Gaskets

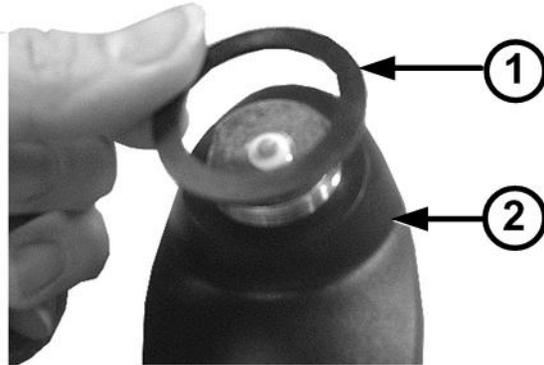
To maintain the integrity and performance of the antenna, Itron recommends that you replace the gasket located in the antenna base at least every year. Replacement gaskets (part number MSE-0210-001, in a packet of six) are available from Itron; contact Customer Support (1-800-635-8725) for more information.

You should also inspect the gasket regularly to verify that it is intact, free from debris, and properly seals the antenna and base.

To replace the antenna gasket

1. Turn the antenna counter-clockwise to remove it from the base.

2. Remove the gasket (1) from the base (2).



3. Place a new gasket on the base. Push it firmly into place. Ensure that it is level on the antenna base; if it is not level, it could be pinched into the base and damaged when the antenna is reconnected.
4. Reconnect the antenna to the base by turning it clockwise until it is firmly seated on the base.

2.x System Maintenance

In addition to the antenna maintenance described earlier, the following tasks should be performed regularly to keep your Mobile Collection 2.x system operating at peak performance.

Inspecting and Replacing Filters

The Mobile Collector has two internal fans that circulate air through its components to cool them. One fan draws air in from the side of the Mobile Collector, while the second fan blows the air out the rear.

Each fan has a filter accessible externally that requires periodic replacement, depending on the environment in which the Mobile Collector is operated. To replace the filter, pull the fan cover off, replace the filter, and snap the fan cover back on.



Inspect the filters regularly and replace them when they become visibly dirty. Contact an Itron customer service representative to order replacement filters.



Service Bulletins

The following information is for customers with legacy Mobile Collection systems in their deployments.

The Service Bulletins listed below should have already been shipped to you, along with any required hardware updates, but are included here as a reminder and to help you identify any system components that may need updating.

Mobile Collection 2.5 / GoBook III Power Plug Issue

(Bulletin Issued June 5th, 2006)

In the interest of continuous improvement, Itron has incorporated a reliability upgrade to your Mobile Collector. The present *CBA-0259-002* cable that provides power from the RF unit to the GoBook III has the conductor exposed on the right angle plug that is inserted into the GoBook III. With the end of the plug exposed, it is possible to short the exposed tip on the metal RF chassis. This only happens when power is supplied to the RF unit before this connection is made between the RF unit and GoBook III. The result of this shorting condition is damage to a transistor on the power board inside of the RF unit, which requires your RF unit to be returned to Itron for repair.

To alleviate this problem, we are replacing the existing *CBA-0259-002* power plug with the enclosed *CBA-0305-002*. *CBA-0305-002* has an insulated tip to prevent shorting on the chassis. Please replace the existing power cable with *CBA-0305-002* as soon as possible and scrap the *CBA-0259-002*. We also recommend that you always connect the cable from the RF unit to the GoBook III before you apply power to RF unit.

This improvement is also being made on all new Mobile Collection 2.5 systems being shipped and all Mobile Collectors when they are returned for service.

If you have any questions, please contact Itron Support at 1-800-635-8725.

Mobile Collector 2.x Power Adapter

(Bulletin Issued September 8th, 2006)

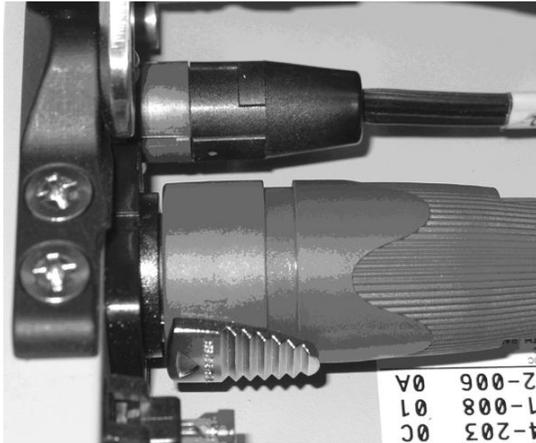
In the interest of continuous improvement, Itron has incorporated a reliability upgrade in your Mobile Collector. Reliability of the existing power connector has become the number one cause of Mobile Collector returns during the past year. As a result, we are replacing the existing power connector with a new power connector that has tested to have improved reliability and durability.

Along with the new power connector in your RF unit, we have included a new power cable with new power connectors. It is imperative that you use the new power cable with your RF unit. The old power cable will not lock into place with the new power connector.

The new power cable was designed to be easily distinguishable from the existing power cable by placing a red and blue overmold on the connectors. A notice label was placed on the chassis of the RF unit to remind you of this requirement.



The operation of the new power cable is slightly different from the previous power connector. To engage the new power connector, align the connector tab with the connector slot on the RF unit, insert the connector and then rotate clockwise 45 degrees. To disengage the unit, pull back the locking tab on the cable connector and then rotate the connector 45 degrees counterclockwise. Notice labels were placed on both ends of your power cable to remind you how to disengage the new power connector.



If you presently utilize a power cable that plugs into the cigarette lighter, you will need to contact Itron Support at 1-800-635-8725 to request a replacement cable. You will be required to send your old cable in as an exchange. It should be noted that Itron does not recommend the cigarette lighter adapter configuration except for emergency use.

This change to the new power connector will be incorporated on all new MC2.5 being shipped and all Mobile Collectors when they are returned for service.

If you have any questions, please contact Itron Support at 1-800-635-8725.

