Avalo LTC AutoLock™ Medication Cart

User Manual



CAPSAHEALTHCARE

Engineering a Path to Better Care

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Overview

About the Capsa Healthcare Medication Cart

The Capsa Healthcare Medication Cart is designed to provide a simple system for the medication management process to foster efficiency and improve patient care.

The cart offers high value without compromise to performance or function, with a full complement of convenience accessories and customizable options.

This chapter contains the following topics:

- Cart features and specifications
- Warnings and cautions
- Customer and technical support
- About this manual
- Programming table

Cart benefits

The Capsa Healthcare Medication Cart offers the following benefits:

- Improved workflow and accuracy
- Safe and ergonomic design
- Advanced medication security and control
- Customized medication and supplies storage
- Magnetic strip or bar code cart access security
- Cart user audit system

Cart features

- **AutoLock timer:** The AutoLock timer monitors cart activity and is programmed to automatically secure the cart after an interval of from 1 to 99 minutes.
- **Event recall:** Authorized users can track cart activity including user access and relocking events using AutoLock Audit System software.
- **Flexible access methods:** Depending on security needs, users access the cart using an access code, an access card, or an access code and an access card. The cart may be configured to operate with a secondary access device such as a bar code reader, magnetic strip reader, or proximity card reader.
- **Rechargeable battery:** The rechargeable, sealed lead acid battery provides the extended run time required in demanding work environments. The battery works with an intelligent charging system for maximum battery life.
- **Workspace:** The organized and expansive workspace enhances workflow and efficiency.

Optional features

- **Card access options:** The card reader accessory provides primary or secondary levels of access. Three types of card readers are available.
- **AutoLock Audit System software:** A software package that enables authorized users to easily program the cart and retrieve event logs, user profiles, and cart settings.

Configuration

This image shows the features of the Capsa Healthcare Medication Cart:



Environmental specifications

- **Operating temperature:** 15 to 35°C (60 to 95°F)
- **Operating humidity:** 30 to 80% non-condensing
- **Shipping and storage temperature:** -29 to 60°C (-20 to 140°F)
- **Shipping and storage humidity:** 10 to 95% non-condensing

Programming

All carts can be programmed from the cart's keypad. However, if the cart has the AutoLock Audit System software, it is more efficient and powerful to program the cart using a laptop or PC.

The cart can be programmed using the cart's keypad. Refer to ***Programming the Cart from the Keypad*** on page 17 for information.

The AutoLock Audit System software detailed in ***Programming the Cart Using the AutoLock Audit System Software*** on page 20 is the recommended way to program the cart and review the event log.

Warnings and cautions

Read and follow these warnings and cautions when using or maintaining the cart to reduce the risk of damage or injury.

- ***DO NOT*** use the cart near water. If the cart becomes wet, unplug it immediately, wipe off any excess liquid, and allow it to dry before using it again.

- ***DO NOT*** immerse the cart in water. This is an electrical hazard and can damage the cart, as well as cause injury.
- Keep the cart in a well-ventilated area.
- Avoid using an electrical extension cord with the cart. If an extension cord must be used, make sure that it is rated for the cart's power capacity.
- ***DO NOT*** use a flammable cleaner when cleaning the cart. Using a flammable cleaner can result in fire or explosion.
- ***DO NOT*** leave children unattended around the cart to prevent injury or death.
- Limit the weight in the drawers to 35 lb. Avoid opening more than one drawer at a time to avoid the possibility of tipping the cart.
- Before working on any internal component, make sure that the spiral power cord is unplugged from the wall socket and the power switch is turned off.

Support

Capsa Healthcare Customer and Technical Support is available 24 hours a day, seven days a week at 800-437-6633.

When calling, please have the following information available:

- **Model:** Capsa Healthcare Medication Cart
- **Serial Number** (located on frame and back panel)

About this manual

This manual is divided into the following chapters:

- **Overview:** This chapter applies to all users. It contains overview information about the cart, its features, warnings, cautions, and technical support. It also describes type conventions used throughout the document and terms that must be understood to interact with the cart.
- **Setting Up the Cart:** This chapter applies to installers. It describes removing the cart from the shipping materials, transport and storage, and setting up the cart.
- **Using the Cart:** This chapter applies to all users. It describes the different parts of the cart and the tasks associated with everyday use of the cart.
- **Programming the Cart from the Keypad:** This chapter applies to cart administrators with all models. It describes how to use the cart to add and edit user access profiles and to edit the cart's settings.
- **Programming the Cart Using the AutoLock Audit System Software:** This chapter applies to cart administrators with models that use the AutoLock Audit System software. It describes how to use the software to recall events, to add, delete, and edit user access profiles, and to edit the cart's settings.
- **Troubleshooting:** This chapter applies to users who perform troubleshooting and maintenance functions.

- **Repair:** This chapter applies to users who perform troubleshooting and maintenance functions. It describes how to replace parts that are field replaceable.
- **Event Master List:** This applies to cart administrators. It provides a detailed description of event-related codes in the AutoLock Audit System software regarding the cart's audit tracking system.

Documentation conventions

The different type styles used in this document to indicate elements of the cart are described below.

- **Bold Type** indicates:
  - A selection to make or clear by pressing the appropriate number or key on the cart's keypad
  - A selection to make or clear when working with the AutoLock Audit System software
- *Italics*: Used for emphasis
- ***Bold italics***: Used to cross-reference topics that contain additional information

Terms and definitions

- **Access card:** An optional card-swipe feature that can be used as an additional security requirement or as the primary cart access method. In this manual, if the cart has been configured to operate with a bar code reader, magnetic strip reader, proximity card reader, or other type of secondary access device, the access procedure is the same as the access card.
- **AutoLock Audit System software:** The Capsa Healthcare AutoLock Audit System software package that enables authorized users to program the cart and to retrieve events, user profiles, and cart settings from the cart.
- **Cart settings file:** A file that is used with the audit software. This file contains information about cart settings.
- **Log file:** A file that is used with the audit software. This file contains information about events that occurred on the cart. This file can be saved but not modified.
- **Master Code:** A numeric code that enables an authorized administrator to program the cart.
- **Read Cart:** The **Read Cart** button displays in the audit software user interface on the user file, cart settings file, or log file. This button enables an administrator to retrieve events, user profiles, and settings from the cart.
- **User #:** A unique number that identifies the person using the cart. Unlike an access code, a **User #** cannot be modified after it is accepted.
- **User file:** A file that is used with the audit software. This file contains user profile information and can be modified.
- **Write Cart:** The **Write Cart** button displays in the audit software user interface on the user file and the cart settings file. This button enables an administrator to apply settings changes to the cart that were made while using the audit software.

Setting up the Cart

Unpacking the cart

1. Read this chapter before unpacking the cart.
2. Check the shipping container for any damage (holes or crushed top).
3. Remove the straps from around the container.
4. Open the top of the container to inspect the product.
5. Lift the container from the shipping pallet and over the product.
6. Remove the plastic protective cover from the product.
7. Using two people, lift the cart from the packaging riser.

   Hold the cart by the base and support the sides as it is lifted.

   WARNING: The cart is heavy. Do not lift the cart from the packaging riser without assistance. Use proper lifting techniques when lifting heavy objects.

8. Inspect the cart again for shipping damage.

Contact Capsa Healthcare Customer Support if any damage is identified.

Initial setup

To set up the cart, plug the spiral power cord into a wall outlet to charge the battery properly before programming or deploying the cart to the facility floor. Refer to ***Testing and charging the battery*** on page 14 for more details.

Transport and storage

The following list of general information must be followed to ensure proper operation of the cart:

- Charge the battery within 7 days of the shipping date.
- Always plug the cart in when it is not in use.
- ***DO NOT*** expose the cart to liquid or temperatures outside of -29 to 60°C (-20 to 140°F) or humidity outside of 10 to 95% RH non-condensing.
- ***DO NOT*** transport, set, or store the cart outdoors where it can be exposed to weather.

Long-term storage

Make sure the cart has been fully charged and the cart's On/Off switch is in the Off position. Improper care may damage the battery.

For more information, contact Capsa Healthcare Technical Support.

Using the Cart

The procedures in this chapter explain different parts of the cart and the tasks associated with everyday use of the cart. This chapter contains the following topics:

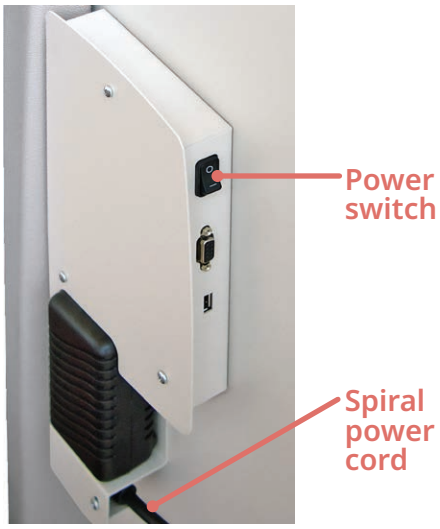
- Parts of the cart
- Powering up the cart
- Accessing the cart
- Testing and charging the battery
- Securing the cart
- Using the AutoLock timer
- Maintenance

Parts of the cart

Power switch

The power switch is located at the back of the cart. This on/off switch enables turning the cart on and off.

NOTE: The battery can be recharged with the power switch in either the on or off position.



Rear View of the Cart

This cart is supplied with a hospital-grade spiral power cord and is to be plugged into a hospital-grade receptacle. Reliable grounding can only be achieved when the equipment is plugged into such a receptacle. To remove AC power from this unit, unplug the cart from the outlet.

WARNING: If the grounding of the AC receptacle is compromised, do not insert the spiral power cord's AC plug into the receptacle.

WARNING: If the hospital-grade spiral power cord is damaged, do not use the cord. Call Capsa Healthcare Customer Support to order a replacement cord.

Keypad

This section describes the parts and functions of the cart keypad. The following diagram illustrates the keypad.



Cart Keypad and Mechanical Lock Core

- **Number keypad:** Enables entering access codes and accepting or changing cart settings.
- **Proceed LED:** Lights green to indicate it is OK to proceed.
- **Error LED:** Lights red to indicate an incorrect entry on the keypad.
- **Clear/Secure:** Clear returns the cart to an idle state. Secure locks the cart.
- **Program:** Enables entering different programming values.
- **Battery Test:** Enables testing the amount of charge left in the cart's battery and adjusting the key beep tone.

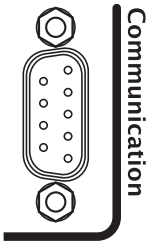
Key

The key can be used regularly or as an override. This feature enables access to the drawers in the event of an electronic malfunction. To use this mechanical override, insert the key and turn it clockwise.

Control panel

The control panel is located at the rear of the cart.

- **Communication port:** Enables the use of a null modem cable (RS232) to connect a personal computer to the cart for use with optional AutoLock Audit software.



- **USB port:** Enables the use of a USB cable to connect a laptop to the cart for use with optional AutoLock Audit software.
- **Power switch:** Turns the cart on or off.

  | = **On**

  O = **Off**

Powering up the cart

When using the cart:

1. Turn on the power switch located at the back of the cart. This switch enables the cart to use DC power.
2. Test the battery.
3. If necessary, plug the spiral power cord into a wall outlet to charge the battery properly before using the cart.

Cart startup display

Upon powering up or resetting the cart, the Proceed, Error, and Battery Test LEDs will flash.

Accessing the cart

The cart may be configured to use an access card as a primary or secondary cart access method. At startup, depending on the cart configuration, the cart will be accessed in one or more of the following ways:

- **Access code only:** Enter a preset user access code.
- **Access card only:** Swipe an access card.
- **Access code and access card:** Enter a preset user access code, then swipe an access card.
- **Key:** Manually unlock the cart using a key.

> **NOTE:** In this manual, if the cart has been configured to operate with a bar code reader, magnetic strip reader, proximity card reader, or other type of secondary access device, the access procedure is the same as with the access card.

Accessing with access code only

A valid access code is needed. Contact the cart administrator for a valid access code. This access code is four digits.

1. Using the keypad, enter the access code.

   NOTE: If the cart's beeper level is set to low, medium, or high, a beep will sound after each number that is pressed.

2. If the correct code is entered, the cart will unlock.
3. The cart can now be used.

Accessing with access card only

A programmed user access card is needed. Contact the cart administrator for a valid access card. For a card with a bar code or magnetic strip, a proximity card, or another secondary access device to provide access to the cart, follow the instructions for the access card.

1. Press any key.
2. Swipe the user access card.
3. If the card swipe registers correctly, the cart unlocks and starts the AutoLock timer.
4. The cart can now be used.

Accessing with code and card

A valid access code and a programmed user access card are required. Contact the cart administrator for a valid access code and access card.

1. Using the keypad, enter the access code.

   NOTE: If the cart's beeper level is set to low, medium, or high, a beep will sound after each number that is pressed.

2. Swipe the user access card.
3. If the card swipe registers correctly, the cart unlocks and starts the AutoLock timer.
4. The cart can now be used.

Accessing using a key

A valid key is required. Contact the cart administrator for a valid key.

1. Insert the key in the lock core.
2. Push the key in and turn the key to the right.
3. The cart can now be used.

Problems accessing the cart

For security purposes, the cart limits the time in which the correct access code and valid access card can be used.

When the time interval is exceeded, the cart:

- Reverts to idle mode
- Secures the cart

The following describes the process that starts when a user enters an invalid access code or uses an invalid access card.

1. The first time an incorrect code is entered or an invalid card is swiped, the Error LED flashes. While the Error LED is flashing, a new code or card swipe cannot be entered.
2. When the Error LED stops flashing, a second attempt can be made.
3. At the second attempt, when entering a code or swiping the card:
   - The code was correct or the swiped card was valid, the cart unlocks.
   - The code was incorrect or the swiped card was invalid, the Error LED flashes.
4. After five seconds, if no code is entered nor card swiped, the system reverts to idle mode. A third attempt may be made.
   - At the third unsuccessful attempt, the Error LED flashes for 30 seconds. All cart functions are locked out during this time.

Testing and charging the battery

Periodically test the cart's battery to ensure that the cart has enough power to operate.

Do not use the cart when the battery's charge is low.

The rechargeable, sealed lead-acid battery provides the extended run time required in demanding work environments. The battery works with an intelligent charging system for maximum battery life.

Testing the battery

1. Press the **Battery Test** key.



Cart Keypad

2. Lights on the keypad will indicate the battery status (6-second flashing or solid indicator):

BATTERY TEST LED	PROCEED LED	ERROR LED	INDICATION
Solid	Solid	—	Good battery
Flash	—	Solid	Low battery
Flash	—	Flash	Very low battery (or inferior battery)
—	—	—	No power

Charging the battery

To recharge the battery, plug the spiral power cord into an AC outlet.

The cart functions can be used normally during charging.

CAUTION: Use caution when attempting to reposition the cart while it is charging to prevent pulling the plug from the wall socket.

Securing the cart

As a cart user, it is extremely important to secure the cart after each use. Securing the cart prevents unauthorized access.

Typically, the cart is secured by pressing the Secure key after each use, depending on the security needs of the facility. In addition, the cart's Auto Secure setting automatically secures the cart after a predefined length of time.

The cart can be secured manually by pushing in the lock core.

Securing the cart manually

1. Close all drawers.
2. Press the lock core into the cart until it engages.

   The drawers lock.

Securing the cart with the keypad

1. Close all drawers.
2. Press **Secure**.

   The lock core recedes, and the drawers lock.

NOTE: If a drawer is open when the cart locks, push the drawer closed, and it will be locked.

Using the AutoLock timer

When the cart is not in use, it is in idle mode. Once you unlock the cart, it starts its AutoLock timer. The timer monitors cart activity and is programmed to automatically secure the cart and return to idle mode after a period of inactivity of from 1 to 99 minutes.

The cart administrator sets the AutoLock time interval using the Auto Secure setting. The default setting is five minutes.

Once the cart auto-secures, the appropriate cart access instructions must be followed for its configuration to access it.

AutoLock process

1. When the cart has been inactive for the configured relock time interval, the cart AutoLock alarm beeps three times.
2. Reset the relock time interval by moving the cart or pressing any key.
3. If the relock time interval is not reset, the cart's AutoLock alarm beeps once every two seconds of the last 10 seconds in the AutoLock interval.
4. If the relock time interval is still not reset, the cart locks.

   NOTE: If a drawer is open when the cart locks, push the drawer closed, and it will be locked.

5. The cart reverts to idle mode.

Maintenance

Cleaning guidelines

Follow these guidelines when cleaning the cart:

- Verify the cart is unplugged from the wall outlet before cleaning.
- Use a soft, clean cloth to clean the cart.
- Use a cleaner of 80% denatured alcohol and 20% water.

  WARNING: Do not use any of these chemicals to clean the cart: acetone, mineral spirits, abrasive cleansers, paint thinner, or any other harsh or toxic chemicals.

6. Allow the cart to dry completely before plugging the spiral power cord into a wall outlet.

Maintain the cart routinely to ensure proper function and performance.

Programming the Cart from the Keypad

This chapter contains the following topics:

- AutoLock programming
- Change the keypad tone
- Change Motion Detector Sensitivity Level
- Change AutoLock Timer

To ensure the highest level of security, manage programming instructions with discretion. Capsa Healthcare suggests each facility appoint a primary medication cart lock system administrator (typically the Director of Nursing) to perform and manage the programming and re-programming of the Capsa Healthcare Medication Cart.

AutoLock programming

The AutoLock system permits simple user access using a four-digit access code. Using the cart's keypad, up to 99 unique access codes can be programmed into the AutoLock system at once.

The cart must be in a secure state for programming. If the cart is in use, secure the cart before beginning the procedure.

1. Press the **Program** button. The Proceed light will illuminate for two seconds.
2. Wait for the Proceed light to turn off.
3. Enter the cart's Master Code. The default is **4545**.

   NOTE: Code ID 00 is reserved for the Master Access Code. If a Master Access Code change is required, follow steps 1 through 8 and re-program Code ID 00. If the cart's Master Code does not work, contact Capsa Healthcare.

4. Wait for the Proceed light to illuminate.
5. Select the number of the Code ID that is to be programmed: Two digits from 01–99 or 00 for Master Code. Programming access codes must be done one at a time. Complete the process for a single Code ID before programming the next.
6. Press the **Program** button.
7. Enter the four-digit access code to be used for that Code ID.
8. The Proceed light will illuminate and blink to confirm acceptance.
9. Press the **Clear** button.
10. Repeat steps 1 through 8 to program additional access codes or to change existing access codes.

    NOTE: For questions regarding lock system operation or maintenance, please contact Capsa Healthcare Customer Service at 800-848-6462.

Change the keypad tone

The keypad tone feature enables users to verify key presses with an audible beep. This section describes how to change or silence the tone.

1. Press **Program**. The Proceed light will illuminate for two seconds.
2. Wait for the Proceed light to turn off.
3. Enter **Master Code**; wait for the Proceed light to illuminate.
4. Press **Battery Test** until the desired tone is heard:
   - Low
   - Medium
   - High
   - Silent (Off)
5. Each press plays a different tone. The fourth press is silent, which turns the key beep off.
6. Press **Clear** to complete.

Change the motion detector sensitivity level

The motion detection feature enables users to reset the AutoLock timer by moving the cart.

> **NOTE:** For carts manufactured after March 2023, the motion detector feature may not be available, and this setting will have no effect.

1. Press **Program**. The Proceed light will illuminate for two seconds.
2. Wait for the Proceed light to turn off.
3. Enter **Master Code**; wait for the Proceed light to illuminate.
4. Press **Program**.
5. Press **2**.
6. Press **Program**.
7. Enter a two-digit number from 01 to 10, with 10 being the most sensitive. Enter 00 to turn the motion detector off.
8. The LED light will blink.
9. Press **Clear** to complete.

Change the AutoLock timer

The AutoLock timer will lock the cart after a preset interval, if no action has been taken to restart the timer, such as pressing a key or moving the cart. This section describes how to change the time interval of the AutoLock timer.

1. Press **Program**. The Proceed light will illuminate for two seconds.
2. Wait for the Proceed light to turn off.
3. Enter **Master Code**; wait for the Proceed light to illuminate.
4. Press **Program**.
5. Press **1**.
6. Press **Program**.
7. Enter a two-digit number from 01–99 for the number of minutes the AutoLock timer is to wait before beginning the cart locking sequence.
8. The Proceed LED light will blink.
9. Press **Clear** to complete.

Programming the Cart Using the AutoLock Audit System Software

This chapter contains the following topics:

- System requirements and basic information
- Installing the AutoLock Audit System software
- Accessing the AutoLock Audit System software
- Connecting the AutoLock Audit System software to the cart
- Recalling events using AutoLock Audit System software
- Managing cart settings
- Managing cart users
- Closing the AutoLock Audit System software connection

The AutoLock Audit System software enables administrators to read information from the cart and to program the cart.

The benefits of using the AutoLock Audit System software include:

- Ability to specify the names of users
- Increased speed in performing tasks, such as adding users
- Ability to print user lists and event histories

After the AutoLock Audit System software is installed and set up, administrators can connect to the cart to retrieve user settings, cart settings, and event data. Administrators can also use the software to modify, add, or delete users and cart settings and then apply (write) any data changes to the cart.

To ensure the highest level of security, manage programming instructions with discretion. Capsa Healthcare suggests each facility appoint a primary medication cart lock system administrator (typically the Director of Nursing) to perform and manage the programming and re-programming of the Capsa Healthcare Medication Cart.

System requirements

To install and run the AutoLock Audit System software, a laptop or PC must be equipped with the following minimum requirements:

- Pentium Class processor
- 128 MB RAM
- 10 MB usable hard disk drive (HDD) space
- VGA video
- Microsoft Windows XP or later
- Available Serial (COM) or USB port

Event, User, and Cart Settings files

The AutoLock Audit System software uses three types of files to manage the cart's data. The types of files are:

- **Event Log file:** An event log file (***.log**) is a read-only file that contains up to 2,000 events that occurred on the cart.
- **User file:** A user file (***.usr**) contains user profile and access information.
- **Cart Settings file:** A cart settings file (***.crt**) contains all the settings on the cart.

Read Cart and Write Cart functionality

The audit software's **Read Cart** functionality enables retrieval of events, user profiles, and settings from the cart. The retrieved data from log files, user files, or cart settings files can be saved. These files can be accessed using the software.

The **Write Cart** functionality enables applying changes that have been made to a user file or a cart settings file to the cart. **Write Cart** is not applicable to log files, which are view-only lists of events that occurred on the cart.

> **IMPORTANT:** Before pressing Write Cart, verify the serial number displayed matches the number of the cart to which it is to be written. Write Cart will save over the cart's current settings.

Use of **Read Cart** and **Write Cart** allows viewing the cart's current files and ensures that the files stored by the AutoLock Audit System software and the files stored on the cart remain in sync.

> **NOTE:** The cart must be on and in an idle state to use the Read and Write cart functions.

Arranging open files

The AutoLock Audit System software's Cascade feature enables arranging open files in a tiered order for easier viewing. To use the Cascade feature, select **Cascade** from the **Windows** menu.

Installing the AutoLock Audit System software

The AutoLock Audit System software CD is included in the AutoLock Audit Connection Kit, part number 12915K. To order the kit, which also includes a USB cable to connect the cart to your PC, contact Capsa Healthcare at 800.437.6633 or **Parts.Support@CapsaHealthcare.com**.

> **NOTE:** When you order the AutoLock Audit Connection Kit, be sure to also ask for a download link for the software to be sent to your email.

1. Close all open applications.
2. **If you received the software via download:**
   a. Quit all running programs.
   b. Right-click the ZIP file that you downloaded, choose **Extract All** from the shortcut menu, then click **Extract**.

c. Double-click **setup.exe**.

d. Continue at step 3 below.

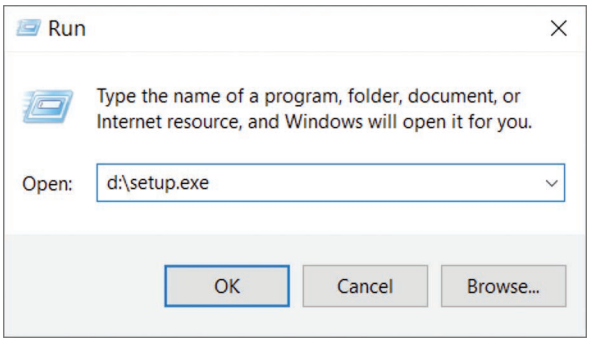
If you received the software on CD:

a. Quit all running programs.

b. Insert the software CD.

c. Right-click the **Start** button then click **Run**.

d. In the **Run** dialog, type **d:\setup.exe** and click **OK**. (Substitute the appropriate letter for your CD/DVD drive).



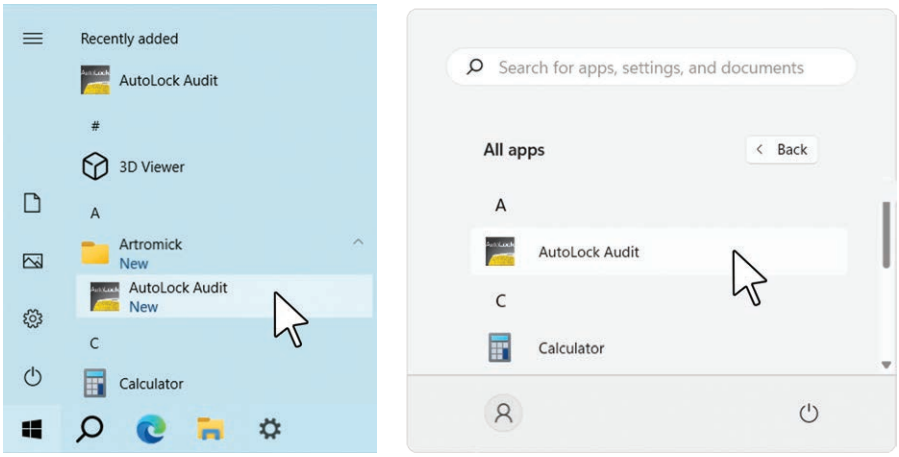
3. If you are presented with a **User Account Control** prompt, click **Yes** to allow the installation to continue.
4. If the installer screen shows a message that "Setup cannot install system files or update shared files," make sure that all other applications are closed, then click **OK**.
5. Click the **Install** button.
6. In the **Choose Program Group** window, click **Continue** to use the default group (**Artromick**).

> **NOTE:** The installer may show one or more **Version Conflict** messages. Each message appears when the installer tries to install a version of a component that is older than the version already installed.
> Click **Yes** to keep your (newer) version and continue.

7. When the installation is complete, click **OK**.

Starting the AutoLock Audit System software

- On Windows 10, click **Start**, then click the **Artromick** folder, then click **AutoLock Audit**.
- On Windows 11, click **Start**, then click **All apps**, then click **AutoLock Audit**.



Start menu: Windows 10 (left) and Windows 11 (right)

Connecting the audit software to the cart

For security, each cart will require the use of a special, four-digit Communication Code. This code is specific to each cart. It is based on the cart's serial number. This code can be obtained from Capsa Healthcare.

When first attempting to communicate with the cart, the software will prompt for the four-digit Communication Code. The proper code must be entered for the cart before the cart will fully respond to the software.

Connecting a laptop or PC to the cart

Use a null modem cable or a USB Type A male to Type A male cable to connect a PC to the cart. Repeat this each time when using the AutoLock Audit System software.

1. Plug one end of the cable that came with the cart into the communication port on the cart.
2. Plug the other end of the cable into a serial port on the laptop or PC.

   If this is the first time using the software, configure the AutoLock Audit System software COM port settings.

Configuring COM port settings

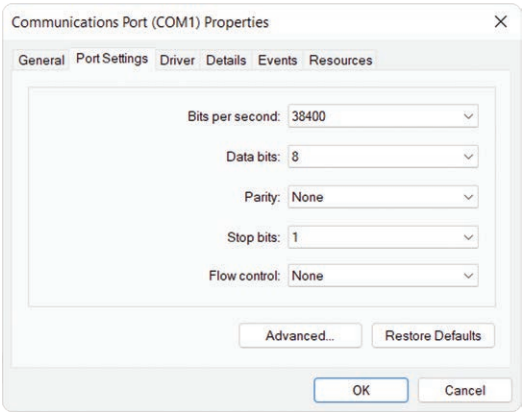
Configure the COM port settings in the AutoLock Audit System software to match COM port settings on the PC. This configuration enables the connection between the cart and the PC. You only need to do this once.

1. View the laptop or PC's Communications (COM) port settings. Make note of the following settings:
   - Port name (COM 1, COM 2, etc.)
   - Bits per Second (baud rate)
   - Parity
   - Data Bits
   - Stop Bits

   These settings will be used later.

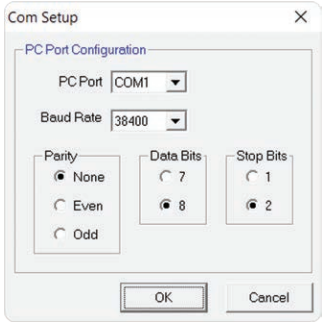
NOTE: To view the Communication Port settings in Windows, open the Device Manager (**My Computer > Control Panel > System > Hardware**). Double-click **Ports (COM and LPT)**. Double-click the COM port to be used. Select the **Port Settings** tab. For assistance, contact the information systems department.

For information on opening Device Manager, consult the Windows online Help system.



COM Port Settings Dialog

2. Open the AutoLock Audit System software as described previously.
3. From the **File** menu, select **COM Port Setup**. The AutoLock Audit System software displays the Com Setup dialog.



Com Setup Dialog

4. View the default settings that display on the dialog. The default settings are typically configured correctly.
5. Refer to the values that you wrote down earlier and adjust as needed.

   NOTE: The Baud Rate should remain 38400 for the initial configuration of the cart.

6. Click **OK**. The AutoLock Audit System software saves the COM port settings, and the Com Setup dialog closes.

   AutoLock Audit System software can now be used to communicate with carts.

   NOTE: When finished using the AutoLock Audit System software, close it down and disconnect communications. See ***Closing the audit software connection*** on page 41.

Recalling events using the AutoLock Audit System software

The cart stores approximately 2,000 events in its memory. Depending on the number of events generated each day, the cart memory may contain events from several weeks back. Once the maximum number of events is stored, the cart automatically overwrites the oldest events.

Using the AutoLock Audit System software:

- Create a log file to receive the log information stored on the cart.
- Read events that occurred on the cart into the log file created or into a previously created log file.

  NOTE: This is not an append function. It will overwrite files on the display.

- Save the log file that now contains the events that were read.

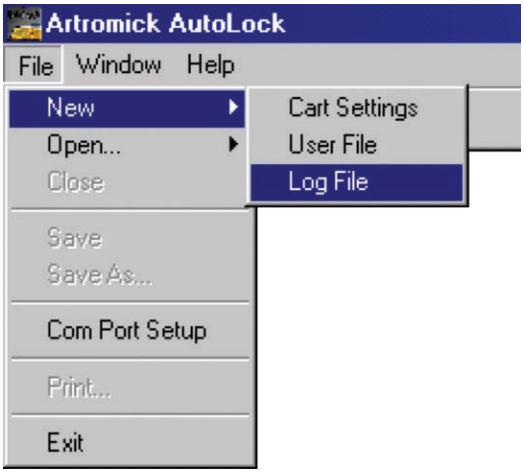
In addition, the log files that were created can be viewed and sorted. The events that were displayed on the log file can be printed.

Create an Event Log file

Use the AutoLock Audit System software to create a new event log file and read cart events into the file.

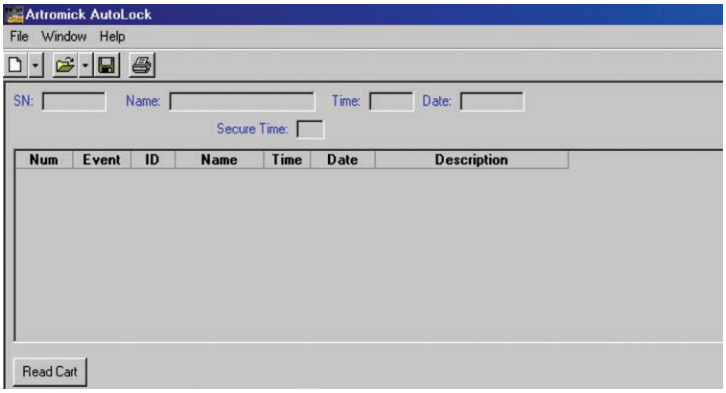
1. Connect the cart to the laptop or PC as described earlier in this chapter.
2. Access the AutoLock Audit System software.

3. From the **File** menu, select **New**.



Create New Log File

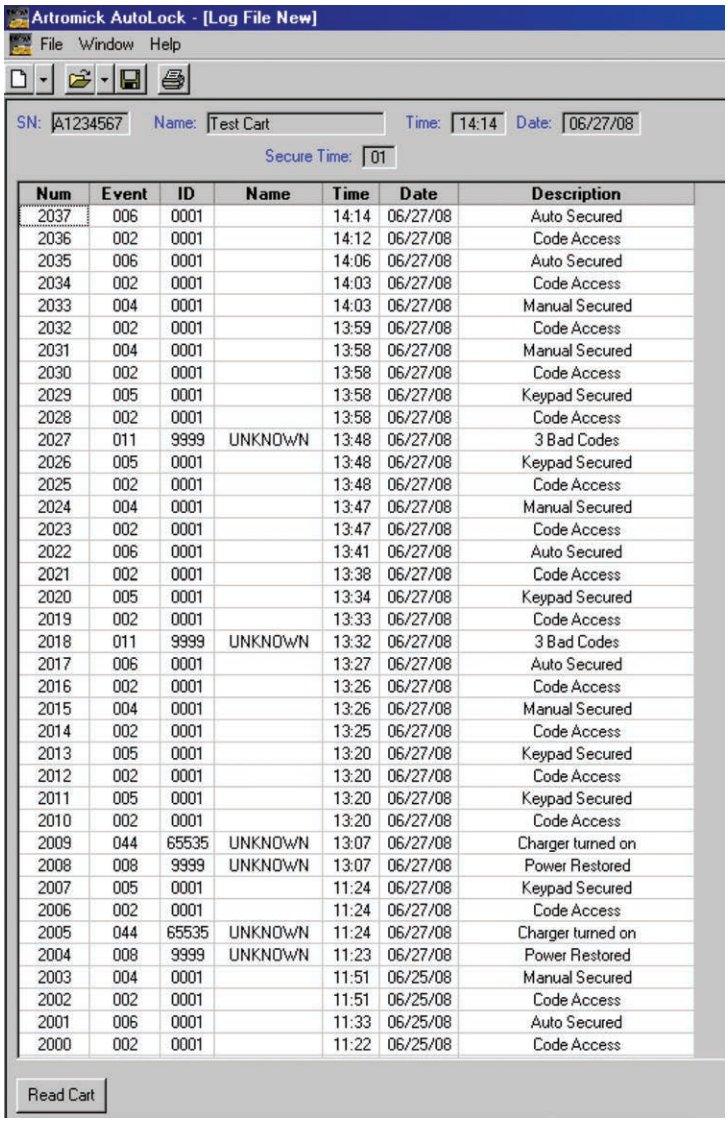
Select **Log File**. The AutoLock Audit System software opens a new, blank log file.



New Log File

4. Make sure the cart is on and in an idle state.

5. Click **Read Cart**. The AutoLock Audit System software reads the events from the cart and updates the log file (see ***Event Master List*** on page 59). The updated log file displays.



Log File From Cart

6. From the **File** menu, select **Save**. The Save dialog displays.
7. Type a new log file name followed by a **.log** extension.
8. Select a directory in which to save the file. The default directory location is **C:\Program Files\Artromick**.
9. Click **Save**.

Event Log file defined

Information fields

The following fields are for information only and cannot be edited. They are described later in this chapter.

- **SN:** Cart serial number.
- **Name:** Cart name.
- **Time:** The time that the log file was read from the cart.
- **Date:** The date that the log file was read from the cart.
- **Secure Time:** The cart's AutoLock delay setting.

Log file fields

- **Num:** Number indicating the order in which events occurred. The lowest number is the oldest event; the highest number is the newest event. The log file can display approximately 2,000 events.
- **Event:** Name of the event. To view event-related codes, refer to ***Event Master List*** on page 59.
- **ID:** User ID associated with the event.
- **Name:** If the access code setting is associated with a user name, this field displays the name of the person who accessed the cart.
- **Time:** The time that the event occurred.
- **Date:** The date that the event occurred.
- **Description:** A description of the event that occurred.

Buttons

- **Read Cart:** Instructs the AutoLock Audit System software to read events from the cart.
- **Close:** Exits the log file screen.

Accessing and updating an Event Log file

1. Access the AutoLock Audit System software.
2. From the **File** menu, select **Open > Log File**. The AutoLock Audit System software displays the Open dialog.
3. Select or navigate to the desired event log file. An event log file contains a .log extension. The default file location is **C:\Program Files\Artromick**.
4. Click **Open**. The AutoLock Audit System software displays the event log file.
5. Click **Read Cart**. The AutoLock Audit System software reads the events from the cart and updates the log file.
6. From the **File** menu, select **Save**. The Save dialog displays.

   NOTE: Saving without renaming will overwrite the existing log file.

7. Select the name of the existing log file or type a new log file name followed by a **.log** extension.

8. Select a directory in which to save the file. The default directory location is **C:\Program Files\Artromick**.
9. Click **Save**.

Sorting events

By default, log file events are arranged numerically according to the order in which they occurred on the cart. The lowest number in the **Num** column of the log file indicates the oldest event; the highest number indicates the most recent event.

The column headings on the log file are interactive to enable sorting by category.

For example, to sort by date, double-click the **Date** column heading on the log file. The AutoLock Audit System software rearranges the log file so that all events that occurred on the cart display according to the date, starting with the most recent.

Printing log files

1. Open the log file to be printed.
2. Select **File > Print**.

> **NOTE:** The file will print in the order displayed on the screen. Should a different order be desired, sort the file as described previously before printing.

Managing cart settings

The cart's settings are configured based on organizational requirements and the preconfigured setup of the cart.

The AutoLock Audit System software's cart settings file provides an easy way for modifying these settings as the needs of the organization change or to better fit the working environment. For example, in an environment of high activity in which the cart is frequently bumped or moved, the Sensitivity field can be modified on the cart settings file to decrease the cart's level of sensitivity.

> **NOTES**
> - Before modifying the cart settings file, use **Read Cart** to ensure that the cart's current settings are being viewed.
> - After modifying the cart settings file, use **Write Cart** to ensure that the system applies the changes made to the cart.

Creating a Cart Settings file

Use the AutoLock Audit System software to create a cart settings file (***.crt**) that contains all the cart's settings. Write the updated cart settings to the cart.

1. Connect the cart to the laptop or PC as described earlier in this chapter.
2. Access the AutoLock Audit System software on the laptop or PC.
3. From the **File** menu, select **New**.
4. Select **Cart Settings**. The AutoLock Audit System software displays the new cart settings file.

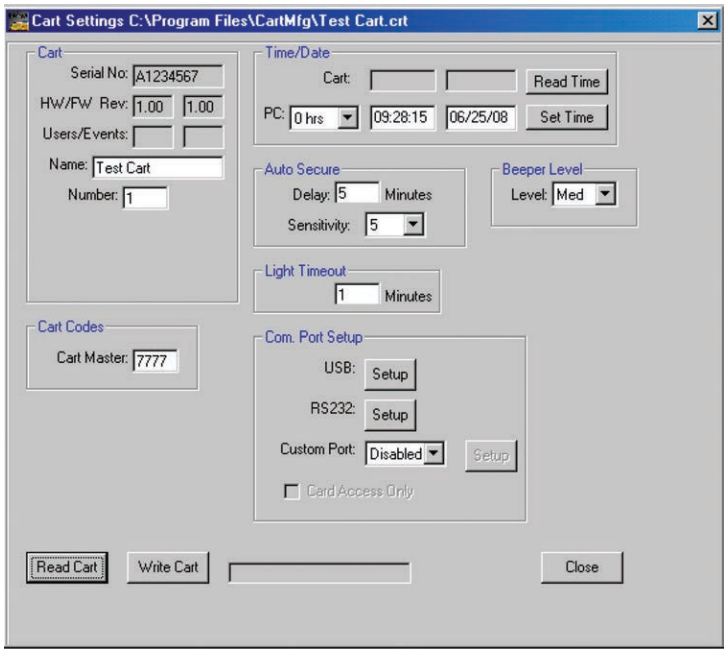
   NOTE: When opening a new cart settings file, it contains some fields that are blank and some that are populated with default values. After clicking the **Read Cart** button, the audit software populates the fields with settings from the cart.

5. Click **Read Cart**. The AutoLock Audit System software reads the cart's current settings and then populates the new cart settings file based on those settings.
6. Modify the settings as necessary. Dimmed fields or selections cannot be modified.
7. From the **File** menu, select **Save**. The AutoLock Audit System software displays the Save As dialog.
8. Type the name of the cart settings file followed by a **.crt** extension.
9. Select a directory in which to save the file. The default directory location is **C:\Program Files\Artromick**.
10. Click **Save**.

Cart Settings file defined

The fields included in the Cart Settings file are grouped into logical blocks.

NOTE: The functions described in this section only work when the cart and the laptop or PC are set up to communicate with each other.



Cart Settings

Cart fields

- **Serial No:** Serial number assigned to the cart. This field cannot be modified.
- **HW/FW Rev:** Hardware/firmware version or revision. This field cannot be modified.
- **Users/Events:** Users and events currently in the cart. This field cannot be modified.
- **Name:** The name of the cart.
- **Number:** The number assigned to the cart.

Cart Codes field

- **Cart Master:** Four-digit Master code assigned to the cart.

Time/Date fields

- **Cart:** The time and date stored in the cart. The **Read Time** button reads the cart's current time and date.
- **PC:** The time and date on the laptop or PC that is connected to the cart. The **Set Time** button enables changing the cart's time and date to match the laptop or PC. The **x hrs** field can be used to set the cart's time at an offset from the laptop or PC's time.

Auto Secure fields

- **Delay:** Controls the cart's AutoLock delay setting, which is the number of minutes of inactivity that can elapse before the cart secures itself. This setting can be from 1 minute to 99 minutes.
- **Sensitivity:** Controls the cart's AutoLock motion detector sensitivity. The default setting is 5 (medium). Available settings are Off and the range of 1–10. Level 10 is the most sensitive.

> **NOTE:** For carts manufactured after March 2023, the motion detector feature may not be available, and this setting will have no effect.

Beeper Level field

- **Level:** Controls the tone of the cart's beeper. The default beeper level is Med (medium). Available levels are: Off, Low, Med, and High.

Light Timeout field

- **Minutes:** If a nightlight has been installed, the number of minutes before the nightlight automatically turns off, after the cart has been secured.

COM Port Setup fields

> **WARNING:** Adjusting these settings could negatively impact the ability to access the AutoLock Audit System software and/or the cart. Do not adjust any of these settings without first consulting Capsa Healthcare Technical Support.

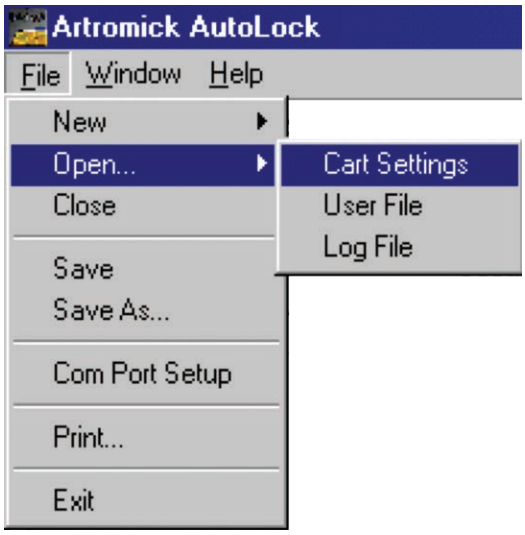
- **USB:** When connecting to the cart using a USB cable, click **Setup** to adjust the Baud Rate, Parity, Data Bit, and Stop Bit settings.
- **RS232:** When connecting to the cart using a null modem cable, click **Setup** to adjust the Baud Rate, Parity, Data Bit, and Stop Bit settings.
- **Custom Port:** Select **Enabled** and click **Setup** to adjust the Baud Rate, Parity, Data Bit, and Stop Bit settings for a secondary access device.
- **Card Access Only:** If selected, the user only needs a card to gain access to the cart. If not, the user must enter a valid four-digit code and swipe a card to gain access to the cart.

Buttons

- **Read Cart:** Instructs the AutoLock Audit System software to read files from the cart and then populate the cart settings file with the cart's data.
- **Write Cart:** Instructs the AutoLock Audit System software to write the cart settings modified to the cart.
- **Close:** Exits the Cart Settings file.

Accessing and modifying a Cart Settings file

1. Connect the cart to the laptop or PC as described earlier in this chapter.
2. Access the AutoLock Audit System software on the laptop or PC.
3. From the **File** menu, select **Open > Cart Settings**.



Open Cart Settings File

4. The AutoLock Audit System software displays the Open dialog. Select or navigate to the cart settings file. The default file location is **C:\Program Files\Artromick**.

> **NOTE:** A cart settings file ends with a **.crt** extension.

5. Click **Open**. The AutoLock Audit System software displays the cart settings file.
6. Modify the cart settings as described earlier.
7. From the **File** menu, select **Save**.

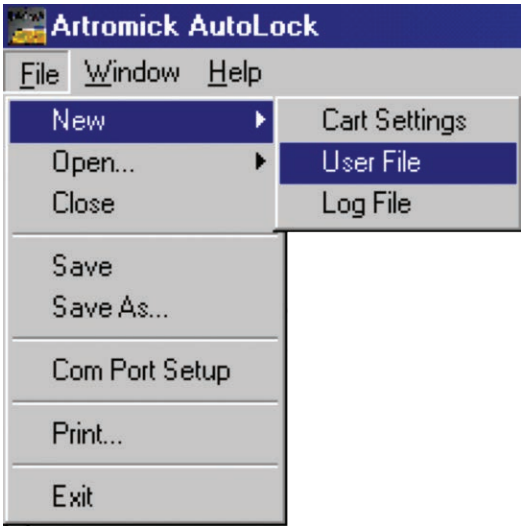
> **NOTE:** Verify that the serial number displayed matches the serial number on the cart.

8. Click **Write** to write the new settings to the cart. This action overwrites the old settings.
9. Click **Close**.

Creating a new User file

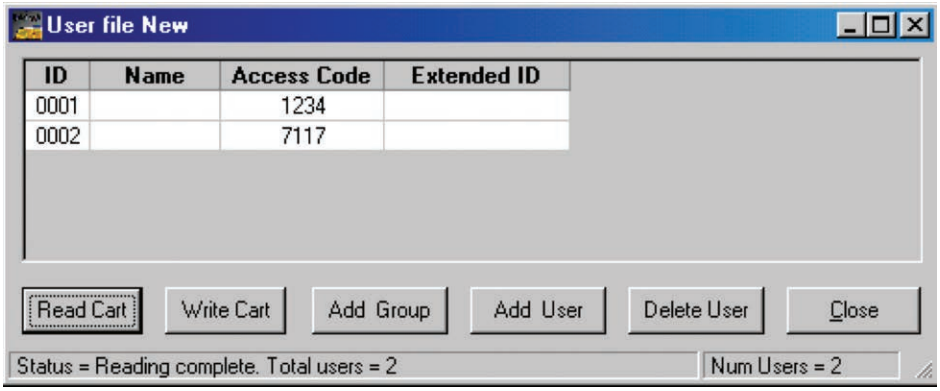
Use the AutoLock Audit System software to create and modify a new user file (***.usr**) that contains information on all the users existing on the cart. Write the updated user configurations to the cart.

1. Connect the cart to the laptop or PC as described earlier in this chapter.
2. Access the AutoLock Audit System software on the laptop or PC.
3. From the **File** menu, select **New**.



Creating a New User File

4. Select **User File**. The AutoLock Audit System software displays a blank user file.
5. Click **Read Cart**. The AutoLock Audit System software reads the cart's current user profiles and then populates the new user file based on those settings.



New User File

6. From the **File** menu, select **Save**. The AutoLock Audit System software displays the Save As dialog.
7. Type the name of the user file followed by a **.usr** extension.
8. Select a directory in which to save the file. The default directory location is **C:\Program Files\Artromick**.
9. Click **Save**.

User file definition

Column headings

When opening a new user file, it contains blank fields. After pressing the **Read Cart** button, the AutoLock Audit System software populates the file with user profiles from the cart. In addition, profiles that are entered using the Add Group or Add User dialogs also display here.

- **ID:** A unique ID that identifies the cart user. This field cannot be modified.
- **Name:** The user's name. Typically, this is entered as the initial of the user's first name and his or her last name. This field can contain a maximum of 10 characters.
- **Access Code:** A unique PIN that enables a user to access the cart. The access code can be modified. By default, the AutoLock Audit System software automatically populates this field, which can be modified when adding or updating the user. This field can contain 4 digits.
- **Extended ID:** Code assigned to the user's access card. This setting only applies to users who have the access card as an optional accessory. This field can contain 16 characters.

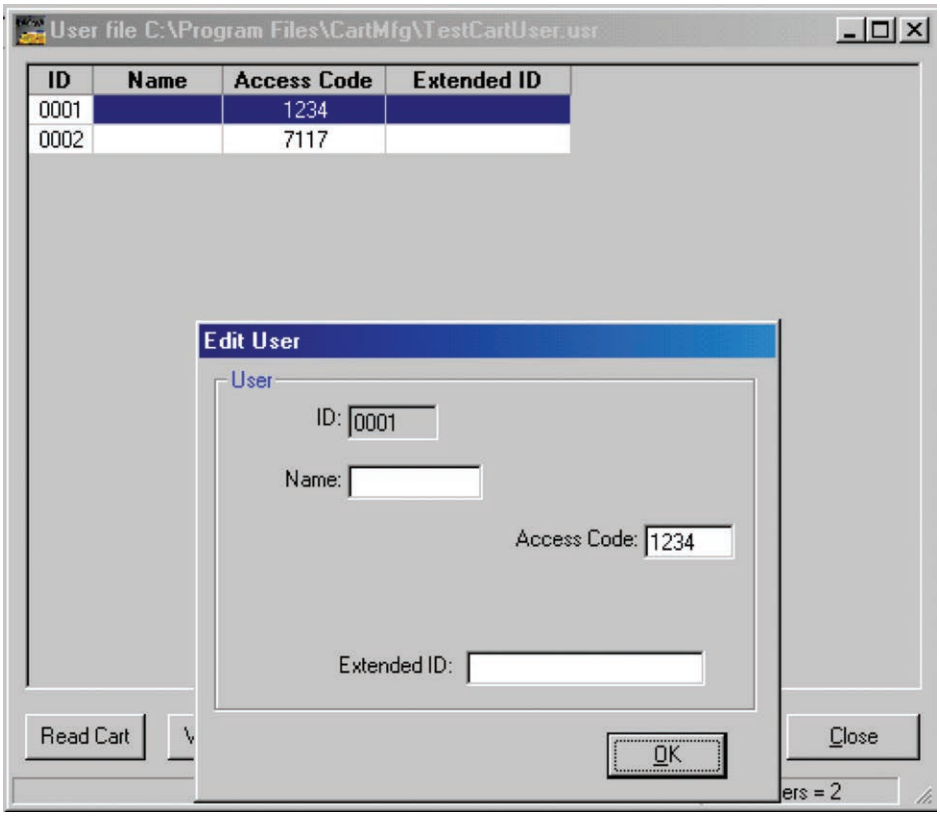
Buttons

- **Read Cart:** Instructs the AutoLock Audit System software to read the user information that is currently stored on the cart. Use of this feature ensures that the user file contains the same information as the cart. The software must be connected to the cart to use this functionality.
- **Write Cart:** This button enables writing changes that have been made to the user file to the cart. Use of this feature ensures that the user file contains the same information as the cart. The software must be connected to the cart to use this functionality.
- **Add Group:** This button displays the Add Group dialog, which enables adding multiple users simultaneously.
- **Add User:** This button displays the Add User dialog, which enables adding a new user to the user file.
- **Delete User:** This button displays the Delete User dialog, which enables deleting a selected user.
- **Close:** This button closes the user file. If the user file contains unsaved changes, the AutoLock Audit System software prompts the user to save the file before the software closes.

Accessing and modifying a User file

1. Connect the cart to the laptop or PC as described earlier in this chapter.
2. Access the AutoLock Audit System software on the laptop or PC.
3. From the **File** menu, select **Open > User File**. The AutoLock Audit System software displays the Open dialog.
4. Select or navigate to the user file. The default file location is **C:\Program Files\Artromick**. A user file contains a .usr extension.
5. Click **Open**. The AutoLock Audit System software displays the user file.

6. Before adding or modifying user profiles using the AutoLock Audit System software, ensure that the file in use is the most current. If updates have been made to the cart, click **Read Cart**. The AutoLock Audit System software displays the Read Cart dialog asking to replace all users in the current database.
7. Click **Yes**. The AutoLock Audit System software updates the user file with the cart's current user profiles.
8. To modify user settings, highlight the user and double-click. The Edit User dialog displays.



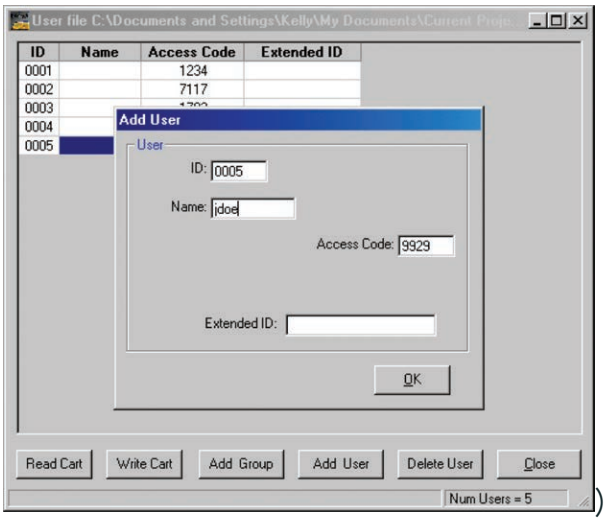
Edit User Dialog

9. When finished editing the user, click **OK**. Then proceed to edit other users.
10. From the **File** menu, select **Save**.
11. After adding or modifying user profiles using the AutoLock Audit System software, it is important to update the cart to include the users that were added or modified. Click **Write Cart**. The AutoLock Audit System software displays the Write Cart dialog asking to replace all users in the cart.
12. Click **Yes**. The AutoLock Audit System software applies changes made to the user file to the cart.
13. From the **File** menu, select **Save**.

Adding a user

The Add User button on the user file enables adding one user at a time to the file. After adding a user, the user displays on the user file.

1. Connect the cart to the laptop or PC as described earlier in this chapter.
2. Access the AutoLock Audit System software on the laptop or PC.
3. Open the user file.
4. Click **Read Cart**.
5. Click **Add User**. The Add User dialog displays.



Add User Dialog

6. Type the appropriate user information.
7. Click **OK**. The Add User dialog closes and the user file displays with the user added to the file.
8. Click **Write Cart**. This ensures that the information contained in the AutoLock Audit System software user file is the same information that is stored on the cart (and vice versa). The audit software displays the Write Cart dialog asking to replace all users in the cart.
9. Click **Yes**. The audit software applies changes made to the user file to the cart.
10. From the **File** menu, select **Save**.

Add User dialog settings defined

NOTE: These settings display when the **Add User** button in the user file is clicked.

- **ID:** A unique ID that identifies the cart user. By default, the AutoLock Audit System software automatically populates this field, which can be modified with an ID that is not in use. However, after clicking OK on the dialog, the ID cannot be modified. To use the ID again, the user must be deleted.

NOTE: If programming user access settings from the cart, this ID is referred to as the User #.

- **Name:** The user's name. Typically, this is entered as the initial of the user's first name and his or her last name. This field can contain a maximum of 10 characters.
- **Access Code:** Unique PIN that enables a user to access the cart. By default, the AutoLock Audit System software automatically populates this field, which can be modified.
- **Extended ID:** Code assigned to the user's access card. This setting only applies to users who have the access card as an optional accessory.
- **OK:** Saves the information and closes the Add User dialog.

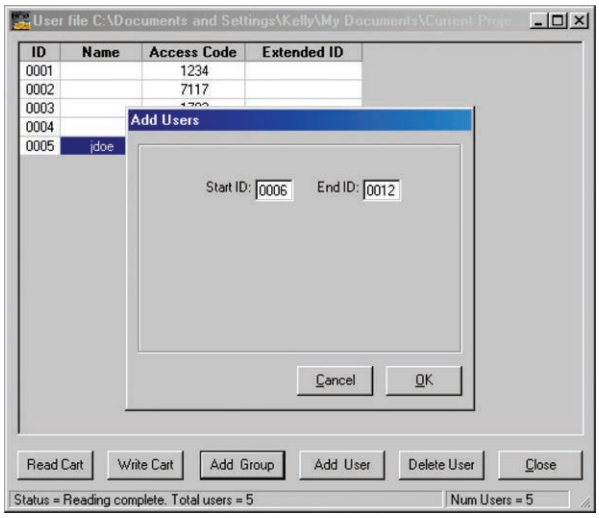
Adding a group of users

The Add Group button on the user file enables adding many cart users simultaneously. When adding a group of users, select a Start ID and an End ID range for the group. By default, the AutoLock Audit System software automatically populates these fields, which can be modified with IDs that are not in use. However, after clicking **OK** on the dialog, the IDs cannot be modified. The settings assigned on the Add Group dialog apply to all users in the group.

After creating the group, its members display individually on the user file. Each user can then be modified. Refer to ***Adding a user*** on page 37 for more information.

1. Connect the cart to the laptop or PC as described earlier in this chapter.
2. Access the AutoLock Audit System software on the laptop or PC.
3. Open the user file.

4. Click **Add Group**. The AutoLock Audit System software displays the Add Users dialog.



Add Users Dialog

5. Type the Start ID and the End ID for the range of users that are to be included in this group.

> **NOTE:** If a user already exists with an ID number that falls in the selected range, a warning will display.

6. Click **OK**. The AutoLock Audit System software updates the user file to include the new users based on the specified ID.
7. If desired, edit user information for any of the added users.
8. From the **File** menu, select **Save**.
9. Click **Write Cart**. This ensures that the information contained in the audit software user file is the same information that is stored on the cart (and vice versa). The audit software displays the Write Cart dialog asking to replace all users in the cart.
10. Click **Yes**. The audit software applies changes made to the user file to the cart.
11. From the **File** menu, select **Save**.

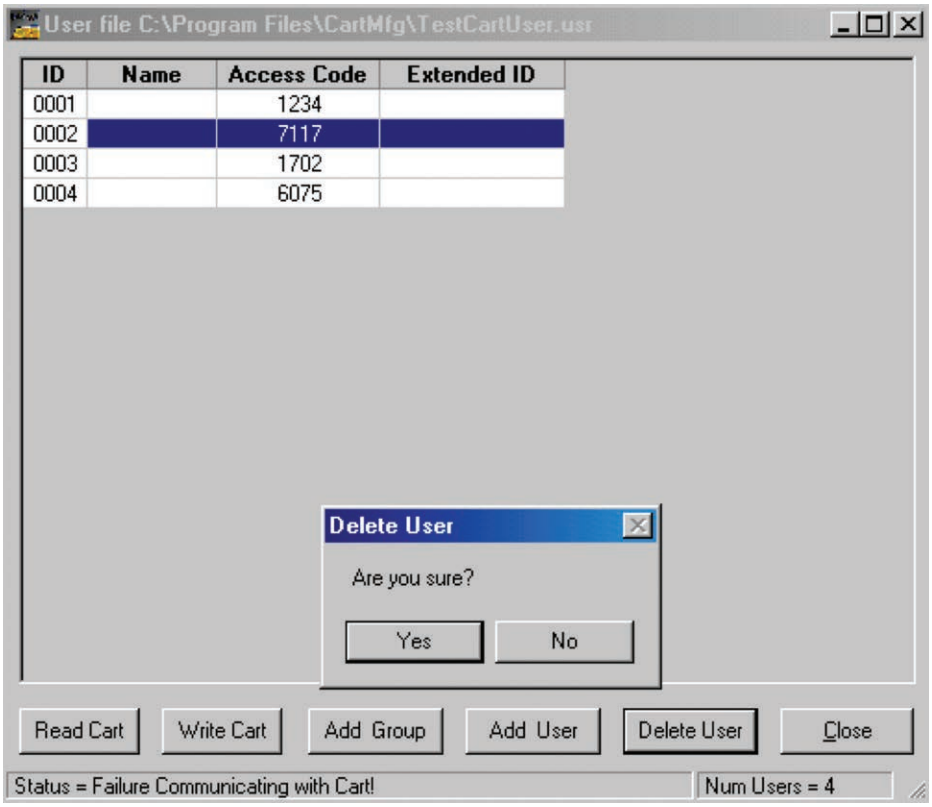
Add Group dialog settings defined

> **NOTE:** These settings display when the Add Group button in the user file is clicked.

- **Start ID:** A unique ID that applies to the first user in the group that is created. By default, the AutoLock Audit System software automatically populates this field, which can be modified with an ID that is not in use. After clicking **OK** on this dialog, the ID field cannot be modified. However, if the ID is needed again, the user must be deleted.
- **End ID:** A unique ID that applies to the last user in the group that is created. By default, the AutoLock Audit System software automatically populates this field, which can be modified with an ID that is not in use. After clicking **OK** on this dialog, the ID field cannot be modified. However, if the ID is needed again, the user must be deleted.
- **Cancel:** Cancels the Add Group function.
- **OK:** Saves the typed information and closes the Add Group dialog.

Deleting a user

1. Connect the cart to the laptop or PC as described earlier in this chapter.
2. Access the AutoLock Audit System software on the laptop or PC. Open the user file.
3. Click **Read Cart**.
4. Click to highlight the user that is to be deleted.
5. Click **Delete User**. The audit software displays a message asking for confirmation on deleting the user.



Delete User Dialog

6. Click **Yes**. The audit software deletes the user from the user file.
7. From the **File** menu, select **Save**.
8. Click **Write Cart**. This ensures that the information contained in the AutoLock Audit System software user file is the same information that is stored on the cart (and vice versa). The audit software displays the Write Cart dialog asking to replace all users in the cart.
9. Click **Yes**. The AutoLock Audit System software applies changes made to the user file to the cart.
10. From the **File** menu, select **Save**.

Sorting Users

By default, users are arranged numerically by User ID numbers. The column headings on the cart user file are interactive to enable sorting by category.

For example, to sort by access code, double-click the **Access Code** heading on the file. The AutoLock Audit System software rearranges the file so that all users are listed according to access code.

Printing User files

1. Open the user file to be printed.
2. Select **File > Print**.

> **NOTE:** The file will print in the order displayed on the screen. Should a different order be required, sort the file as described previously before printing.

Closing the audit software connection

After finishing using the AutoLock Audit System software, close the connection link between the cart and the software to ensure that no other software can communicate on the open link.

1. From the **File** menu, select **Exit**. The AutoLock Audit System software displays the Exit Host dialog asking whether to disconnect from the cart.
2. Click **Yes**. The AutoLock Audit System software closes. If **No** is clicked on the Exit Host dialog, the software closes, but the cart COM port remains open.

> **NOTE:** Any key press during communication will close the cart COM port.

3. Disconnect the null modem or USB cable from the back of the cart.
4. Disconnect the null modem or USB cable from the back of the laptop or PC.

Troubleshooting

This section lists general tips, symptoms of problems that may be encountered, their cause, and the solution. The next chapter describes the replacement procedures that may be mentioned in the Troubleshooting Guide.

If none of these tips remedies the problem, please contact Capsa Healthcare Technical Support 24/7 at 800-437-6633.

General tips

If the cart does not function properly, try the following:

- Make sure the power switch is in the ON position.
- Make sure the power cord is connected to the cart and plugged in to the wall. A completely discharged battery may require a few minutes to recharge enough to operate the cart.
- If the keypad LEDs indicate an incorrect access code, contact a supervisor for the correct code.

Troubleshooting guide

This guide provides some basic troubleshooting steps to address problems that may be encountered over the lifetime of the cart. Refer to ***Service*** on page 44 for how to replace damaged or inoperable parts that can be replaced in the field.

Should any problems not covered or if there are questions on achieving the solution indicated, please call Capsa Healthcare Technical Support.

The first step in most troubleshooting is to get a response from the cart and ensure the battery is sufficiently charged.

SYMPTOM	SOLUTION
No response from cart	• Check that the cart power switch is in the “On” position • Check the 15 Amp breaker on the battery box • Check the battery connections in the bottom of the cart • Verify that the battery voltage is greater than 10.5 volts • Check the battery connection to the PCB
Cart will not lock	• Check that the cart is responsive (press the **Battery Test** key) • Verify that the battery status is not showing a very low battery condition. Plug in the charger if needed • Press the **Secure** key • The lock mechanism may be stuck • The AutoLock assembly may need to be replaced
Cart will not unlock	• Check to see if the cart is responsive • Verify that the battery status is not showing a very low battery condition. Plug in the charger if needed • Verify that a valid access code is being entered • The AutoLock assembly may need to be replaced
Manual key will not work	• Verify you have the proper key for cart • Check for an obstruction in the key lock area • The AutoLock assembly may need to be replaced.

SYMPTOM	SOLUTION
Battery does not charge or hold charge	1. Plug the spiral power cord into a known good AC outlet 2. Turn on the cart power switch 3. If the LED on the charger is on, check connections to the PCB and battery 4. If all connections are good, allow the cart to charge for 6 hours 5. If after 6 hours, the battery still seems to discharge too fast, the battery may need replaced
Cart works when plugged in but not when unplugged	• Check the 15-amp breaker • Check the battery connections • Verify that the battery voltage is greater than 10.5 V
Cart hard to push or swivel	• Check for obstructions • Unlock any locking casters • Casters may need to be replaced
Cart acquires a static charge	• Replace broken or missing static chain
Spiral power cord hanger no longer will hold spiral power cord	• Replace the spiral power cord hanger

Service

This chapter is for technicians who are experienced in replacing parts in electronic equipment.

The cart has several replaceable parts that are listed in this chapter. These parts can be used to repair the unit when necessary.

This section is organized from the simplest repairs to more complex ones. The list below shows the chapter organization for replacing the following parts:

- 12 V battery
- Static chain
- Casters
- Drawer
- Drawer slides
- Keypad
- Spiral power cord hanger
- Charger
- Spiral power cord
- Printed circuit board (PCB)
- Lock assembly
- Motor assembly



CAUTION: Before working on any internal component, make sure that the spiral power cord is unplugged from the wall socket, and the power switch is turned off.



CAUTION: When working on electronic components, use a ground strap to prevent static discharge.

NOTE: Should the cart require being laid on the floor, use two people to lower it. Never lay the cart on its front. Doing so could damage the drawers.

Required tools

The following tools are required for performing the tasks described in this section:

- #1 and #2 Phillips screwdrivers
- Short #1 or #2 Phillips screwdriver
- Adjustable wrench or 10 mm socket or wrench
- Torx T-30 screwdriver
- Hex key set (including 1/8-inch)
- Side cutters
- 3/16-inch socket or wrench
- 1/4-inch socket or wrench
- 11/32-inch socket or wrench
- 7/16-inch socket or wrench
- 3/16-inch open-end wrench
- 1/2-inch open-end wrench
- 3/4-inch open-end wrench
- 1/8-inch and 1/4-inch flathead screwdrivers
- Digital multimeter
- Flashlight (optional)
- Magnetic screwdriver or magnet (optional)

Replaceable parts list

The following list gives the most common field replaceable parts. If a required part isn't listed below, call Capsa Healthcare Technical Support for advice or service.

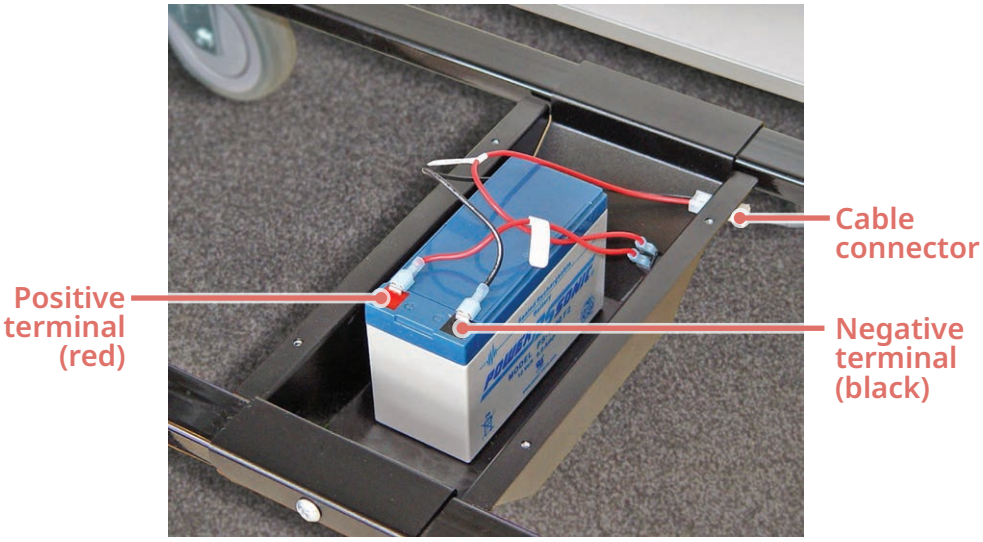
PART NUMBER	DESCRIPTION
12260	Drawer slide
12370	AutoLock keypad
12638	Static/chain elimination
12787	Relock assembly
12788	Motor assembly
12823	Plug hanger, large
12383	Battery, 12 V, 9 Ah
12155	AutoLock PCB assembly
12382	Charger, 12 V, 3 A
20554	Spiral power cord
9367TP	Caster, swivel
9368TP	Caster, locking
9370TP	Caster, tracking

Replace the 12 V battery

The battery is encased in a black box that extends below the cart.

CAUTION: Before working on any internal component, make sure that the spiral power cord is unplugged from the wall socket and the power switch is turned off.

1. Unlock the cart and remove the bottom drawer. See ***Replace a drawer*** on page 48 for detailed steps.
2. Turn the power to the cart off and unplug the cart.
3. Locate the battery cable connector to the right of the black battery box. Squeeze the sides of the connector to disconnect it.
4. Remove the four screws holding the battery box cover. Remove the cover and set it aside.



AutoLock Battery

5. Set the battery upright for easier access to the terminals.

NOTE: The battery position may vary but the cable connections will be substantially the same.

6. Disconnect the wire from the negative (black [–]) terminal.
7. Disconnect the wire from the positive (red [+]) terminal.
8. Pull the old battery out of the box and set it aside.
9. Set the replacement battery in the box with the terminals exposed.
10. Connect the red wire to the battery's red (positive [+]) terminal.
11. Connect the black wire to the battery's black (negative [–]) terminal.
12. Lay the battery on its side in the same position as the removed battery.
13. Reattach the cable connector.
14. Reattach the battery box cover.

15. Replace the drawer.
16. Plug the black spiral power cord into an AC outlet and charge the battery for at least three hours prior to use.

Replace the static chain

The static chain hangs underneath the unit and drags against the floor to prevent buildup of a static charge.



CAUTION: Make sure that the spiral power cord is unplugged from the wall socket and the power switch is turned off.

1. With two people, grasp the unit and carefully lower it onto its back.



IMPORTANT: Never lay the cart on its front. Doing so could damage the drawers.

2. Using a T-30 Torx screwdriver, unscrew the nut holding the old static chain.
3. Remove the old chain and position the replacement chain in its place.
4. Tighten the nut to hold the chain in place.
5. Using two people, return the cart to its upright position.

Replace casters

The unit can have locking or swivel casters. All casters are replaced the same way.

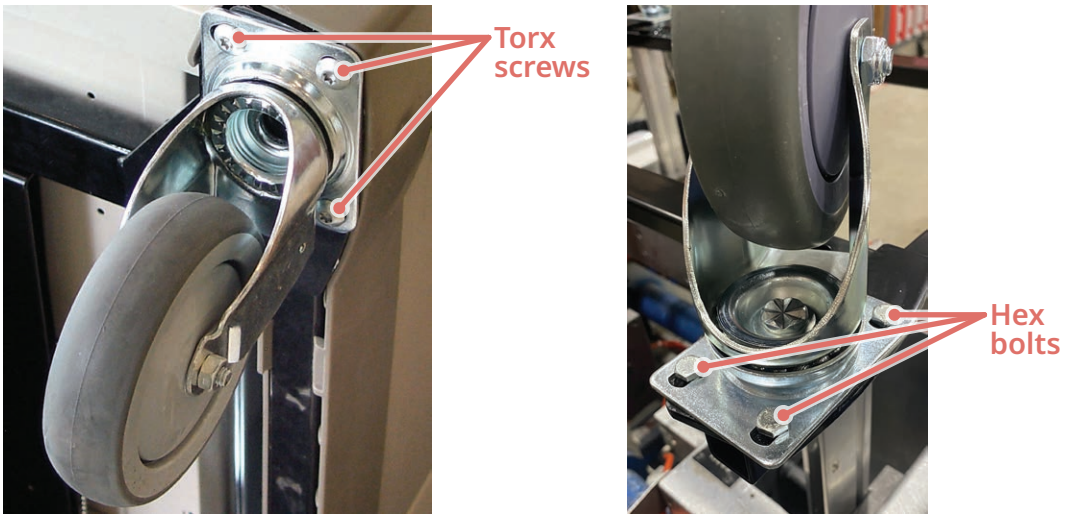
CAUTION: Make sure that the spiral power cord is unplugged from the wall socket and the power switch is turned off.

1. With two people, grasp the unit and carefully lower it onto its back.

IMPORTANT: Never lay the cart on its front. Doing so could damage the drawers.

2. Using a T-30 Torx screwdriver or 7⁄16-inch hex wrench, remove the four screws or bolts holding the old caster.

NOTE: Older models of the Avalo LTC AutoLock Medication Cart use Torx screws ✸ to attach the casters. Models manufactured after 2025 use 7⁄16-inch bolts ⬢.



Swivel Caster

3. Reattach the replacement caster.
4. Repeat steps 2 and 3 for each caster that must be replaced.
5. Using two people, return the cart to its upright position.

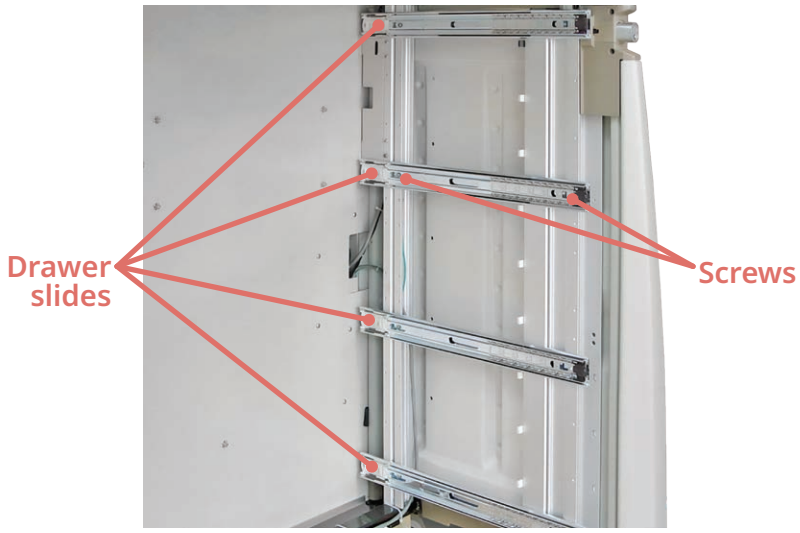
Replace a drawer

1. If necessary, power on the cart and access the drawer.
2. Two latches hold the drawer in place. Push down on the right-hand latch and push up on the left-hand latch to release the drawer. Remove the old drawer.
3. Carefully line up the new drawer with the sides of the guides and push in.
4. Repeat as necessary for each replacement drawer.
5. Secure the cart.

Replace drawer slides

CAUTION: Before working on any internal component, make sure that the spiral power cord is unplugged from the wall socket and the power switch is turned off.

1. Remove the drawer as described previously.
2. Remove the four screws (two on each side) that hold the drawer slides to the cart.



Drawer Slides

3. Position each replacement drawer slide and reattach each to the cart with the two screws.
4. Carefully line up the drawer with the sides of the guides and reinstall the drawer.
5. Secure the cart.

NOTE: Should the slide that is attached to the drawer need to be replaced, obtain a new slide from Capsa Healthcare, unscrew the old drawer slide, and replace it with the new slide.

Replace the AutoLock keypad

CAUTION: Before working on any internal component, make sure that the spiral power cord is unplugged from the wall socket and the power switch is turned off.

1. Unlock the cart and remove the top drawer. See ***Replace a drawer*** on page 48 for detailed instructions.
2. Unplug the cart and shut it off.
3. Remove the screw holding the keypad cable connector cover. The cover will swing down out of the way.

IMPORTANT: Note the orientation of the keypad cable connector.

4. Disconnect the green keypad cable from the black harness.
5. Peel the old keypad off the cart and pull the green keypad cable through the slot.
6. Clean the top of the cart with alcohol to remove any residue from the old keypad.
7. Route the new keypad cable through the slot.
8. Remove the protective backing from the new keypad.
9. Press the new keypad into place.
10. Attach the green keypad cable to the black harness.
11. Replace the screw holding the keypad cable connector cover.



AutoLock Keypad

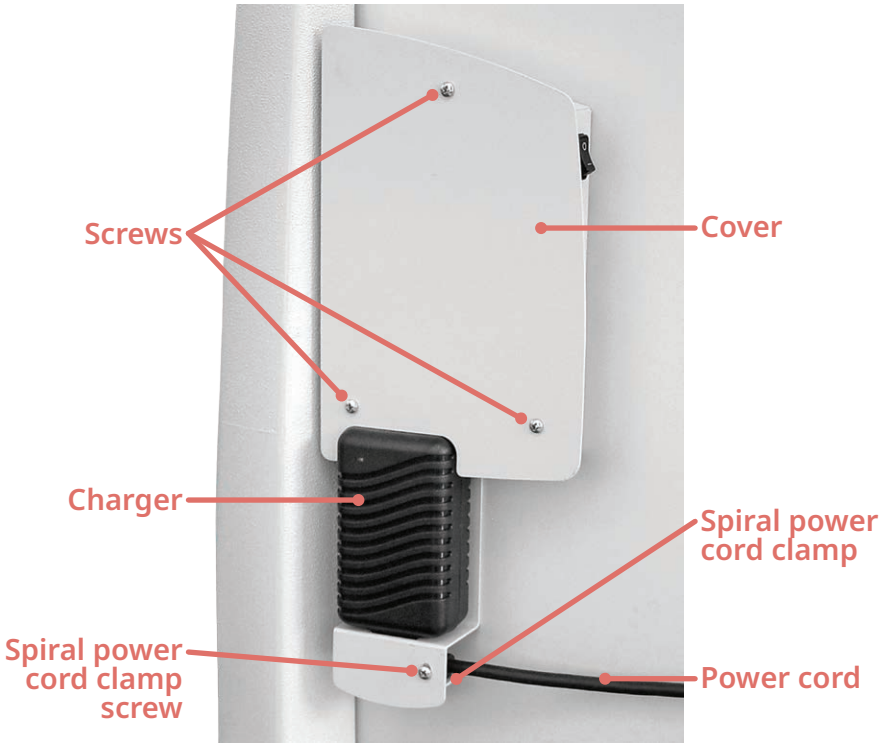
Replace the spiral power cord hanger

1. Using a #2 Phillips screwdriver, unscrew the two screws that hold the old spiral power cord hanger in place.
2. Remove the old spiral power cord hanger and set it aside.
3. Position the new spiral power cord hanger in its place.
4. Attach the new spiral power cord hanger using the two screws removed in Step 1.

Replace the charger

CAUTION: Before working on any internal component, make sure that the spiral power cord is unplugged from the wall socket and the power switch is turned off.

1. Remove the three screws that hold the PCB cover in place. Keep hold of the cover so it does not fall. Set it aside.



PCB Cover

2. Remove the screw that holds the spiral power cord clamp in place. Keep hold of the clamp so it does not fall. Set it aside.
3. Unplug the spiral power cord from the charger.
4. Unplug the charger from the PCB.
5. Pull the charger off the hook-and-loop fasteners holding it in place.
6. Attach the replacement charger to the hook-and-loop fasteners.
7. Plug the charger into the PCB.
8. Plug the spiral power cord into the charger.
9. Reattach the spiral power cord clamp, making sure to line up the left hole with the peg and the right hole with the hole in the clamp before attaching the screw.
10. Reattach the PCB cover.

Replace the spiral power cord



CAUTION: Before working on any internal component, make sure that the spiral power cord is unplugged from the wall socket and the power switch is turned off.

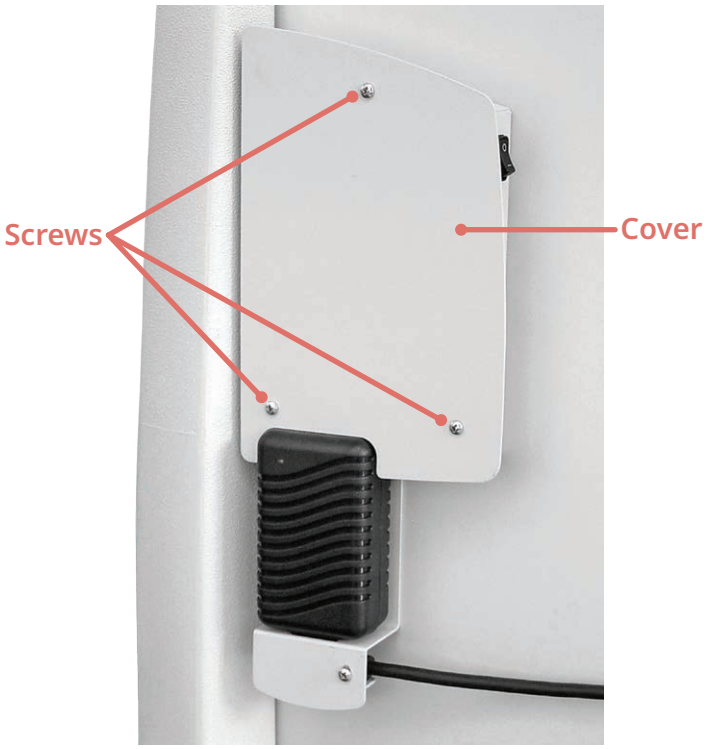
1. Remove the spiral power cord clamp. See ***Replace the charger*** on page 51 for detailed instructions.
2. Remove the screw from the strain relief.
3. Remove the strain relief from the old cord.
4. Disconnect the spiral power cord from the charger and discard the spiral power cord.
5. Replace the spiral power cord.
6. Attach the new spiral power cord to the charger.
7. Attach the strain relief to the new cord and reattach the strain relief to the cart.
8. Reattach the spiral power cord clamp, making sure to line up the left hole with the peg and the right hole with the hole in the clamp before attaching the screw.

Replace the printed circuit board (PCB)

CAUTION: Before working on any internal component, make sure that the spiral power cord is unplugged from the wall socket and the power switch is turned off.

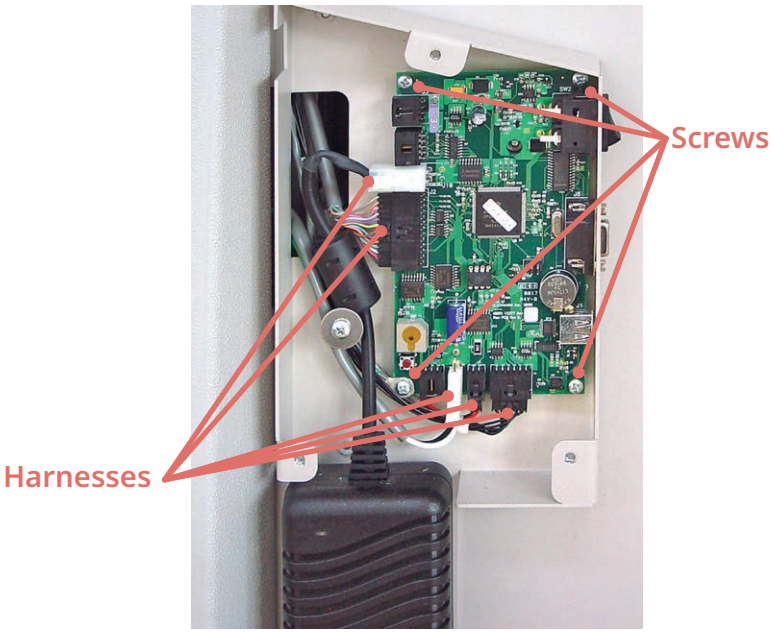
CAUTION: When working on electronic components, use a ground strap to prevent static discharge.

1. Remove the three screws that hold the printed circuit board (PCB) cover in place. Keep hold of the cover so it does not fall. Set it aside.



PCB Cover

2. Unplug all harnesses attached to the PCB.



Printed Circuit Board

NOTES

- The printed circuit board in your cart may look slightly different from the picture.
- To facilitate reinstallation, carefully observe where each harness is connected.

3. Remove the four screws holding the PCB in place.
4. Remove the old PCB and install the new one using the four screws.
5. Reconnect all harnesses to the PCB.

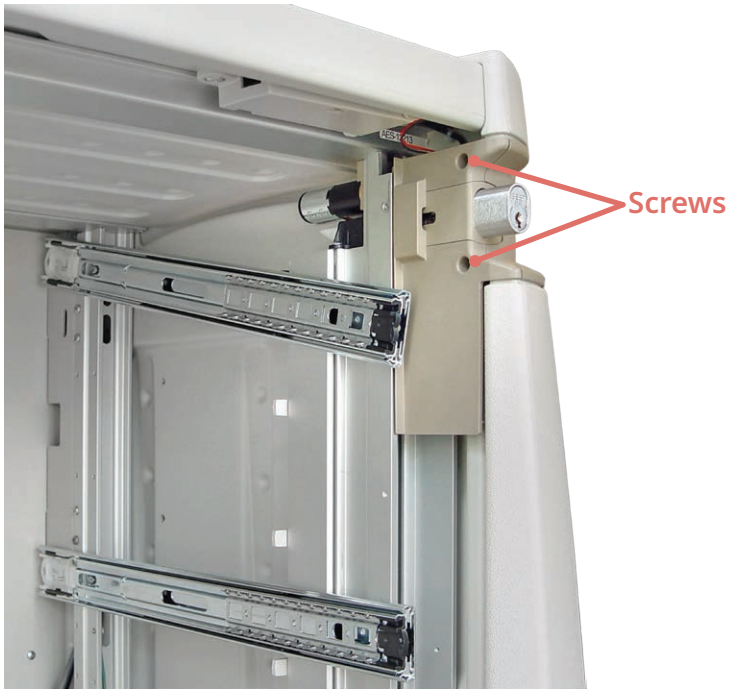
IMPORTANT: Do not force connections. All cables are keyed and will only go in the appropriate socket the correct way.

6. Reinstall the PCB cover.

Replace the lock assembly

CAUTION: Before working on any internal component, make sure that the spiral power cord is unplugged from the wall socket and the power switch is turned off.

1. Remove the top drawer. See ***Replace a drawer*** on page 48 for details.



Interior Lock Cover

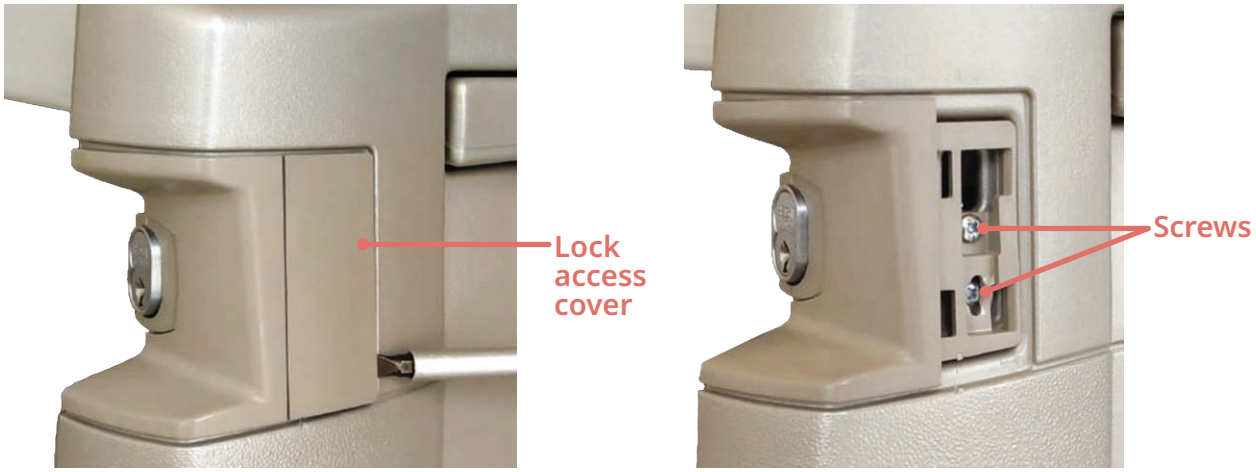
2. Using a #2 Phillips screwdriver, remove the front screw of the right-hand top drawer slide and lightly push the drawer slide down so it is out of the way.
3. Remove the two screws holding the interior part of the lock cover in place.

NOTE: Use a magnet or magnetic screwdriver to remove the screws after they have been unscrewed.

IMPORTANT: The lock assembly screws are varying lengths. As they are removed, keep track of which screws belong in which holes.

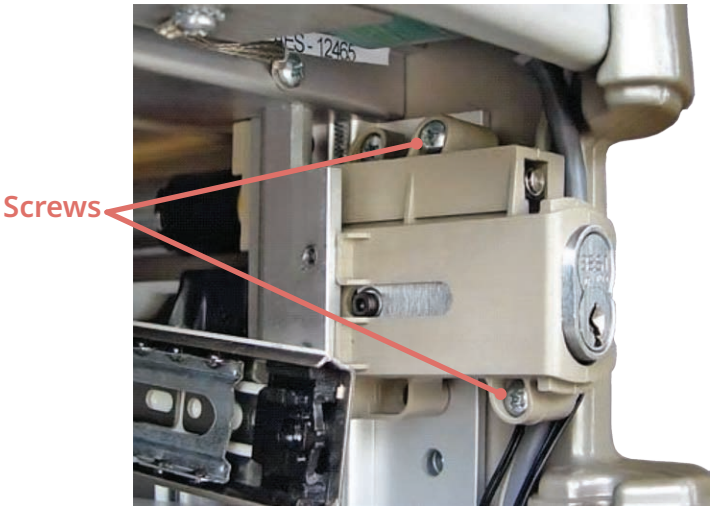
4. Remove the interior lock cover and set it aside.

5. To remove the exterior part of the lock cover, use a flat-blade screwdriver to snap out the rectangular cover piece.



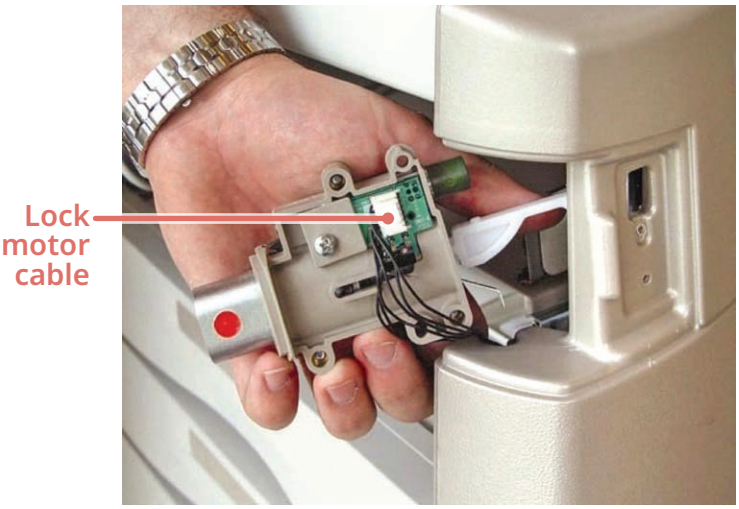
Exterior Lock Cover (left); Exterior Lock Cover Removed (right)

6. Remove the two exterior screws holding the lock.
7. Remove the screws on the interior side that keep the lock in place.



Lock

8. Wiggle the lock assembly out, keeping a firm forward pressure on the lock until it snaps out.



Lock Assembly

> **IMPORTANT:** Carefully observe the existing wire routing and make sure to route wires as they were.

9. Unplug the lock motor cable from the lock assembly.
10. Plug the lock motor cable into the new lock assembly.
11. Making sure of alignment, carefully push the new lock assembly into the opening.

> **NOTE:** Be careful not to crimp any wires or let the wires get in the way. Press down on the lock tabs to get the lock assembly back in place.

12. Reverse steps 1–7 to reassemble the cart.

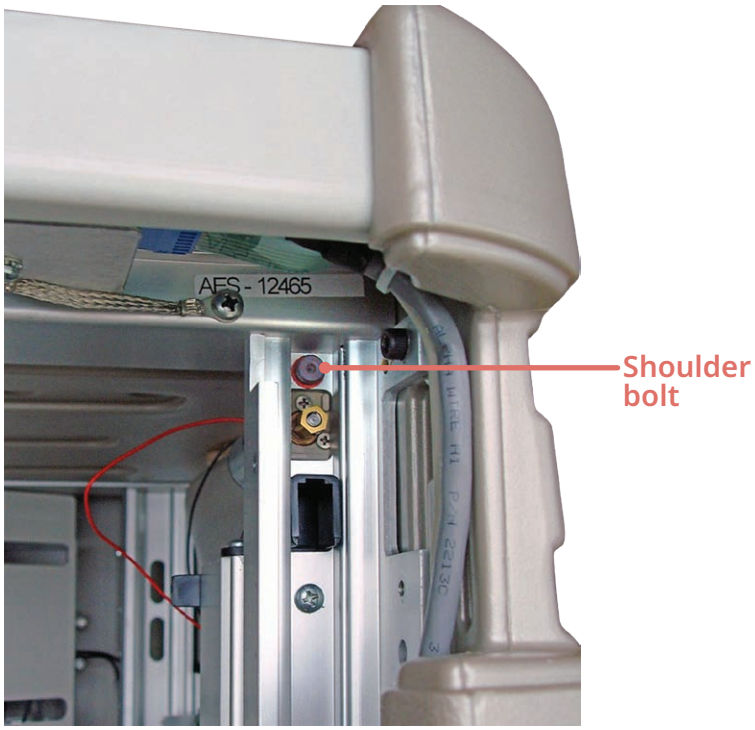
Replace the motor assembly

> **CAUTION:** Before working on any internal component, make sure that the spiral power cord is unplugged from the wall socket and the power switch is turned off.

1. To remove the motor, remove the lock cover and loosen the lock as described in ***Replace the lock assembly*** on page 55.
2. Carefully unplug the motor wire connector.

> **TIP:** Use a flashlight to view the connector.

3. Using a hex key, remove the shoulder bolt holding the motor in place.



Remove Shoulder Bolt Holding Motor

IMPORTANT: Carefully observe the existing wire routing and make sure to route wires as they were.

4. Remove the old motor and replace it with the new motor.
5. Plug in the new motor to the harness.
6. Reverse steps 1–3 to reassemble the cart.

Event Master List

These are the codes that display when using Recall Events mode on the AutoLock Audit System software log file.

EVENT #	EVENT DESCRIPTION	COMMENT
002	Code Access	Cart opened by access code
003	Manual Access	Cart in manual override
004	Manual Secured	Cart secured manually
005	Keypad Secured	Cart closed with keypad
006	Auto Secured	Cart closed with auto secure timeout
008	Power Restored	Power restored to cart
011	3 Bad Codes	Three bad access codes entered
013	Lock Fault	Lock mechanism entered invalid state
044	Charger On	Battery charger plugged in
045	Charger Off	Battery charger unplugged

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