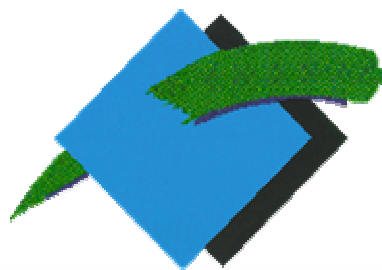


CAPS[®] by Cartronics **Cart Anti-theft Protection System**

From



Lamson

Lamson Engineering NZ Ltd.
0800 Lamson. (526766)

***The Worlds leader in Shopping Trolley Theft
Protection***



***Operation Manual / Troubleshooting Guide for CAPS[®]
System***

STORE MANAGER BEST PRACTICES CAPS® INSTALLATION

- Designate a “Trolley Captain” for system management on each shift.
- Check Transmitter operation each morning, a green light indicates all is well – any audible beeps / red light flashing means there is something wrong – call Cartronics or UKMS.
- Perform accurate weekly cart counts. Check loading docks, freezers, etc... and rotate your fleet every three months.
- Courtesy Clerks / Porters to retrieve trolley’s from store perimeter regularly. Idle, unsupervised trolleys are not useful to customers and are an easy target for theft or sabotage.
- Courtesy Clerks / Porters check CAPS® Castors for debris. Build up of debris can affect the castors operation – if unable to remove debris, take trolley out of service.
- Ensure all trolleys are locked at night.
- Down trolley’s should be removed from service and secured for Service Engineer – Call for Service.
- Establish a “Sign Out” sheet for Remote Control usage as these a valuable items and expensive to replace

*****Important Note*****

When electronic / Automated trolley retrieval systems are used, all Cartronics casters must not be engaged / locked or severe damaged will be caused to the yellow breaking shell and or other Caster components – not covered by warranty.

1. System Operation

The CAPS® system consists of five main components

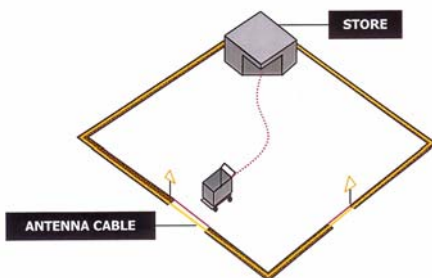
- ☞ The Trolley Castor
- ☞ The Transmitter
- ☞ The Antenna Loop
- ☞ The Base Station
- ☞ The Master / Slave Reset Controllers



The antenna loop continually communicates with the Transmitter station located inside the store (preferably the Managers office). The electronic castor is fitted easily to each new or existing trolley.

A perimeter line is agreed with the Landlord / Store Manager and the antenna is installed. The Trolleys fitted with the castor will not operate beyond this point. To assist customers in realizing the perimeter warning signs and a visual red / yellow line is installed on the ground either just before or over the antenna line.

Basic description of the system

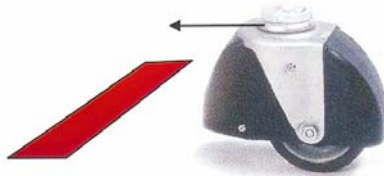


Upon locking (activation) only Trolley Porters or the Store Manager are able to reset castors using the Master / Slave Reset Controllers.

The Antenna transmits a signal to a height of up to 5' above ground level

Phase 1.

Trolley Approaches the Red Line



Castors will not be activated at this point as the antenna (depending on installation parameters) is located between 1m – 2m away from the red line. The signal rises approximately 1.5m above ground level.

Phase 2.

Trolley passes over the red line



The castor will now be activated. A two stage process to reduce “sudden” halt of the trolley.

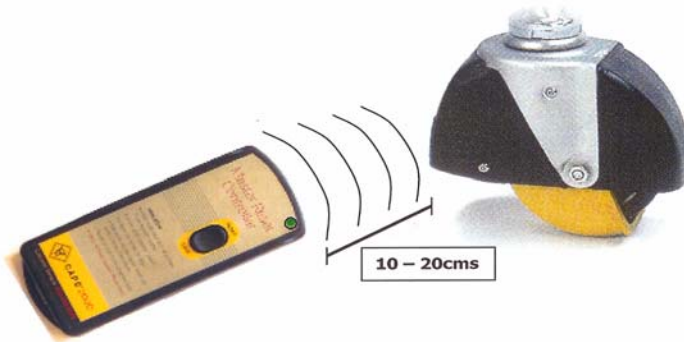
Phase 3.

Castor in Lock mode



The Castor is now completely locked, making the trolley unmovable. It will remain in this state until reset by an authorized person.

System Reset – Castor



Step 1.

To reset a locked / activated castor, hold the hand held reset controller approximately 10 -20cm away from the castor unit. Depress the “Reset” button by rocking the button forward (only possible movement on a slave reset controller); a **Green LED** will light indicating the reset unit is working correctly.

Step 2.

When the castor receives the reset signal, you will hear the motor turn, unlocking the **Yellow locking shell**. Slightly lift the castor off the ground, approximately 1cm and manually rotate the locking shell back into the castor housing. You will hear a click lock as it seats itself correctly.



Step 3.

The electromagnetic pack situated inside the castor allows a 15 second shut off period, allowing the user to roll the trolley back inside the perimeter area. If the Trolley is **NOT** moved back inside the perimeter during this minute duration, the castor will again lock as it passes over the antenna line.

Remember – Once a castor has been reset, it will not lock again for 15 seconds. Within this period the trolley could be taken from the site!

2. Base Station and Reset Controllers

Each CAPS® System is supplied with at least one **Base Station**, one **Master Reset Controller** and two **Slave Reset Controllers**.

These Reset controllers are the electronic keys which unlock an activated castor. Each controller has a unique security system, which if stolen or misplaced, will render the unit inoperable after a period of 24 hours. Only by insertion to a base station will the security system be deactivated and allow the controller to be used.

To reset controllers, follow the guidance below

Step 1.

Place the controller in the base station facing forwards and down as shown.

Step 2.

Press the reset button on the base station, a **Red LED** will illuminate for approximately 10 seconds after which the controller will have reset.

Step 3.

To confirm the unit has reset, remove the controller for the base station, depress the reset button once. The **Green LED** will illuminate confirming reactivation.



Please note: The reset controller battery is not charged in the base station. Under normal working conditions, the battery will operate for 6 -12 months.

Signals that the battery is failing:

- a. **Green LED** flashes when the button is depressed.
- b. **Green LED** does not illuminate when the button is depressed.

3. Trouble shooting the System

As with any electrical system, faults can occur. If faults occur with any component during your warranty period it is imperative that NO service work is undertaken by non qualified personnel. Any attempts at repair by non qualified personnel may invalidate your warranty.

Before calling for service, please check the troubleshooting list below to see if the problem can be remedied on site. If advised in the guide to contact Carttronics for service, please see our contact details.

When calling for service, please inform **SERVICE AGENT** of the nature of the problem. We may be able to resolve problems over the phone.

Transmitter Faults

Whenever a fault is detected in the transmitter system, a series of audible “beeps” will sound.

No. of Beeps	Fault / Cause	Corrective Action
One	High resistance in Loop Detected – Warning	Call SERVICE AGENT for Service
Two	Open Loop or Resistance too high to function	Call SERVICE AGENT for Service
Three	Loop too large for power setting	Call SERVICE AGENT for Service
Four	Transmitter Failure or Brownout detected	Open transmitter box taking care as live power supply inside. Depress the YELLOW reset button. If fault does not clear, check power supply ensuring it’s an uninterrupted supply. If problem continues contact SERVICE AGENT for Service

 **Operational Trouble shooting**

Symptom	Fault / Cause	Corrective Action
Green Light on Transmitter case fails to light	<p>No power to 12v transformer</p> <p>No power out from 12v Transformer</p>	<p>Try another 240v source</p> <p>Call SERVICE AGENT for Service</p>
Caster do not lock at Antenna line	<p>Power Setting too low</p> <p>Break in antenna loop (red LED on transmitter will also light)</p>	<p>Call SERVICE AGENT for Service</p> <p>Call SERVICE AGENT for Service</p>
Castors lock at unintended locations	<p>Signal is grounded to other metal structures</p> <p>Signal is coupling with wire-runs or metal structures</p>	<p>Call SERVICE AGENT for Service</p> <p>Call SERVICE AGENT for Service</p>
Castors do not lock when lifted over the antenna line	Signal power too low	Call SERVICE AGENT for Service
Castor shell does not lock in place when reset and rotated up	Potential mechanical failure in castor	<p>Attempt locking and resetting using the Master Reset Controller.</p> <p>If fails to resolve - Call SERVICE AGENT for Service</p>
Castor won't lock at antenna line	<p>Shell rotation may be blocked by debris</p> <p>Power output too low</p> <p>Potential mechanical failure</p>	<p>Tilt cart back, inspect and remove any trapped debris</p> <p>Call SERVICE AGENT for Service</p> <p>As previous, mechanical failure - Call SERVICE AGENT for Service</p>

<p>Castor won't reset</p>	<p>Locking mechanism may be blocked by debris</p> <p>Potential Electromechanical failure</p>	<p>Tilt trolley back, inspect and remove any trapped debris Attempt resetting for a second time, ensuring that the reset controller is the proper distance from the castor. Hold reset controller to castor and depress reset button for 20 seconds. Performs factory reset – if still inoperable – Call SERVICE AGENT for service</p>
<p>Trolley with CAPS castor found unlocked and rolling off site</p>	<p>Shell rotation may be blocked by debris</p> <p>Transmitter signal may be too low</p> <p>Malfunctioning EM Pack</p>	<p>Tilt trolley back, inspect and remove any trapped debris</p> <p>Return trolley to antenna line to test locking action. If trolley locks properly reset and return to service. If it fails to lock - Call SERVICE AGENT for Service</p> <p>Remove trolley from service - Call SERVICE AGENT for Service</p>
<p>Trolleys with broken locking shells found on or off site</p>	<p>Trolley's / Castor's may be subject to abuse or vandalism</p>	<p>Ensure carts are secure during closing hours – alert security to potential vandalism problem. Remove broken trolley from service - Call SERVICE AGENT for Service</p> <p>NB: Castors damaged as a result of abuse or vandalism are NOT covered under the Carttronics Warranty</p>

Reset Controller Troubleshooting

Symptom	Fault / Cause	Corrective Action
Master Reset Controller is not resetting castors	<p>MRC needs to be reactivated by the Base Station</p> <p>Unit has been abused or damaged</p> <p>Castor is damaged</p>	<p>Put controller in the base station and reset according to instructions</p> <p>Contact SERVICE AGENT to arrange return and assessment</p> <p>Return trolley to antenna line to test locking action. If trolley locks properly reset and return to service. If it fails to lock - Call SERVICE AGENT for Service</p>
Master Reset Controller blinks repeatedly	<p>Indicates low battery</p> <p>Exhausted Battery</p> <p>MRC needs to be reactivated by base station (no LED illumination)</p>	<p>Call SERVICE AGENT for Service to replace Battery – Do not Access the unit</p> <p>Call SERVICE AGENT for Service to replace Battery – Do not Access the unit</p> <p>Put controller in the base station and reset according to instructions</p>
Master Reset Controller will not function after being reactivated in the base station	<p>Controller is damaged / defective</p> <p>Base Station is damaged / defective</p>	<p>Call SERVICE AGENT for Service</p> <p>Call SERVICE AGENT for Service</p> <p>NB: Master or Slave Reset Controllers damaged as a result of abuse or vandalism are NOT covered under the UK Warranty</p>

STORE DAILY CHECK LIST

The following should be undertaken each day by the “Cart Captain”

Copy this page onto plain paper for future use.

<u>Check</u>	<u>Task</u>	<u>Completed</u>
1	Check Transmitter(s) for operation – Green light = OK, Red light and warning “beeps” = Problem, call Service Agent	
2	Check / Reset the Reset Controllers in the Base Station	
3	Sign out Reset Controllers / Sign back in	
4	Check Perimeter for Locked Trolleys, Reset and return	
5	Ensure Non - Functioning trolleys are taken out of service	
6	Remove Debris from Castors if notices	

By ensuring Daily checks, the store will see the full benefits of the CAPS system

Visit – www.carttronics.com for further information