

# Chapman® Vehicle Locator<sup>TM</sup> (CVL)



# Security To Go™

# **User Manual**

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# This Manual details all the functions and operations that the CVL has the capacity to provide for you.

### **Reference Notes**

Write your CVL reference numbers in the spaces provided below. Remember you may want these numbers changed, so use a pencil or make copies so that you can update your information.

#### CVL Phone Particulars

Model Type	110AS026
Your Operational Phone Number	
Electronic Serial Number (ESN)	

# Programmed Phone Numbers

Emergency Number – Q1	
[Press Once and Hold 2 Seconds]	
Concierge Number – Q2	
[Press Rapidly 2 Times]	
Service Operator Number – Q3	
[Press Rapidly 3 Times]	
Personal Number 1	
[Press Rapidly 4 Times]	
Personal Number 2	
[Press Rapidly 5 Times]	
Personal Number 3	
[Press Rapidly 6 Times]	
Personal Number 4	
[Press Rapidly 7 Times]	
Personal Number 5	
[Press Rapidly 8 Times]	
Personal Number 6	
[Press Rapidly 9 Times]	

# Reference Notes cont.

# Contact Phone Numbers

Authorized Dealer Name			
Dealer Phone Number	()		
Dealer Account Number	#		
Chapman Customer Service Desk [If You Have Questions]	(800) 827-8034		
C3 Information Service [Monitoring Information]	()		
When in Battery Save Mode or Armed minutes after the start of ever as "Meantime."  Installed, Operational Function	ry minutes. T		
The following is a quick reference for and installed features of your CVL unit		e progra	mmed
Is your CVL installed with Engine Distals your CVL equipped to activate Horn Is your CVL equipped to activate Light Is your CVL equipped with Door Unload Is your CVL equipped with provisions door from being unlocked by use Is your CVL equipped with Motion/To Is your Factory installed Alarminterfacts your CVL equipped with Covert Arr Number of Additional Call/Emergency Notes:  [Installer: Please List Location of additinataller: Have you checked all approprintial]	ts? ts? to keep the nauthorized users? w Sensor? ted with CVL? n/Disarm Button? Buttons tional Call/Emergen		

# **Terminology**

CVL Chapman Vehicle Locator. The security and tracking unit you

have purchased.

C3 Chapman Command Center (C3). The dispatch and control

center that is dialed whenever you have an Emergency, Concierge or Service Operator call that is made. See the C3

section in this manual for further information.

GPS Global Positioning System. A series of 24 satellites, 11,000 miles high in orbit around the globe. The locating system within the CVL uses signals from these satellites to calculate location, speed, bearing and time. From this information your CVL has

calculated your position, speed and bearing.

**Personal Call** This is a call to or from another normal telephone i.e., not the C3. **Down Load** The CVL comes with an "on board memory used to store

location, speed, time and date information. This data is referred to as the "Route Log." Route Log data can be downloaded by C3

learn/verify vehicle activity.

Battery Save This is one of the modes the CVL can be automatically switched

to. When in the Battery save mode the CVL has a programmable timer, which allows the CVL to power up and be "able to receive" incoming calls from C3 to interrogate the system for tracking, locating, or other services. Alarm functions can be

either on or off.

Armed One of the CVL modes. In this mode the CVL has a

programmable timer, which allows the CVL to power up and be "able to receive" incoming calls from C3, but it also has its alarm features turned on and will make an emergency call to C3 if the

vehicle is broken into.

Alarm The CVL system will produce an Alarm response/condition

when the security alarm is "on" and has detected an unauthorized vehicle entry. In Alarm response/condition, the CVL will automatically call C3, indicating an unauthorized vehicle entry/alarm condition is in progress, and the C3 operator will immediately take the appropriate action to verify the Alarm, and

if warranted, summon the appropriate authorities.

**Kev Chain** The K

Transmitter

The Key Chain Transmitter is the CVL control used to arm/disarm alarm function and to make calls to C3. Should your Key Chain Transmitter become lost or need to be replaced, C3 will assist you with a new Key Chain Transmitter and the programming [referred to as Learn the Code] so that it

communicates with your CVL unit.

Meantime "Meantime" refers to when the CVL is "on intermittently" and

able to receive calls from C3. When in Battery Save mode, the CVL has a programmable timer, which allows the CVL to power up and be "able to receive" incoming calls from C3. This power

up feature is referred to as "Meantime."

# **Introducing the Chapman Vehicle Locator**

Tsing the most advanced technology available, the Chapman Vehicle Locator (CVL) provides you with a broad range of services, including vehicle security, emergency aid, air bag deployment, roadside assistance, directions, asset management tracking or simply making a phone call. More importantly, it provides you with peace of mind 24 hours a day, seven days a week.

#### **CVL Vehicle Alarm Function**

The CVL combines location/tracking, data, two-way voice communications and "optional" vehicle security functions to provide an easy to use vehicle alarm and emergency notification system. When leaving the vehicle, an easy to use button on the key chain transmitter [supplied with each CVL unit] allows you to "arm" the system. Should an unauthorized entry of the vehicle take place, the CVL will automatically make an emergency call to the Chapman Command Center ("C3").

Upon receiving an alarm notification call, trained C3 Operators will take immediate action to verify [if in fact] the vehicle is being stolen or vandalized. This is accomplished by the silent listen in feature of the system. C3 Operators will open communications with the CVL system, and are able to listen in and if appropriate, communicate with the vehicle's occupants, alert the police, or even disable the vehicle with the "engine kill/disable" feature, with appropriate law enforcement authorization.

#### **Panic Call**

The CVL has the ability to make panic or emergency calls by pressing the Panic button or the key chain transmitter, or by pressing an optional panic button(s) (hidden) installed in the vehicle. Either way, you can make a silent panic or emergency call, alerting C3 that you need assistance.

# **Making Calls**

The CVL has the ability to make and receive cellular calls (Note: providing a normal cellular account has been activated.). By pressing the call button located on the CVL (if overtly installed for fleet and asset management applications), or on the key chain transmitter, puts you in contact with a C3 operator. The CVL also can dial up to 9 personal numbers. (See more detailed explanation in the sections titled "Quick Guide" and "What are the buttons and Lights.")

# **Concierge Services**

Calls to Q2 Operators for directions, assistance or concierge yellow page type services can be accomplished by pressing the call button on the unit or on the key chain transmitter rapidly two (2) times.

#### **CVL Vehicle Tracker**

Should the Vehicle Alarm feature not be required, your CVL can be utilized as a fully functional Asset and Fleet Management Tracking and Emergency Notification System. While the Vehicle is turned on, the CVL may be contacted at any time by C3. While it is in the off mode, the CVL will switch on periodically (see Terminology, "Meantime") saving the vehicle's battery and also periodically allowing C3 to download if information is needed.

### **CVL Output Feature**

The C3-controlled output feature of the CVL allows C3 to remotely send a signal controlling optional installed functionality of the vehicle such as: controlling Engine Kill/Disable (with law enforcement authorization) or Door Unlock, Horn Honk, or Lights Flash, or the program feature for new/replaced key chain transmitters.

Chapman	Vehicle	Locator	(CVL)	User	Guid

# **Quick Guide**

#### **Key Chain Transmitter Buttons**



**Arm/Disarm**- This button arms and disarms the security function of the CVL This button may also be used to cancel an alarm.

*On-* This button will switch the CVL on. When the engine is running the CVL is automatically switched "On." This button may also be used to cancel an alarm.

*Call*- Call Button, a 2 second press makes an Emergency Q1 Call, multiple presses dials non-emergency or private numbers. Press to pick up or hang up a call.

*Off*- This button will switch the CVL into the Battery Save state.

#### **Audible Beep Guide and Information**

To assist the user in correct operation of the CVL, audible "beeps" have been designed into the system. Each sequence of beeps are utilized as an audible confirmation and verification of the various CVL modes and functions. These beeps assists the user by confirming that the desired mode or function has been selected when using the Key Chain Transmitter or the "Call" button on the CVL.

#### Where indicated, please note the following:

- 1. An *internal* 'beep' originates from the CVL's speaker.
- An external 'beep' originates from the CVL's speaker and external indicator.
- 3. An **external indicator** means the vehicles' horn or lights (if connected).

#### The Audible Beep Guide

- 1 internal 'beep' indicates CVL is in "Battery Save and/or a Voice Call.
- 2 internal 'beeps' indicate CVL is powered "On."
- 3 external 'beeps' indicate CVL is "Arming" Security Alarm feature.
- 1 external 'beep' indicates CVL is "Disarming" Security Alarm feature.
- Repetitive internal 'beeps' indicate CVL "Arming" Security Alarm feature.
- Repetitive external 'beeps' indicate the CVL is in "Alarm" mode.

**Important Note**: If no sound is heard in response to a key press, this indicates that the selected key press is not valid, or an emergency call has just been placed and a C3 Q1 Operator will be receiving an "Alarm" call.

# **Operations**

#### Making an Emergency Q1 call:

Press Call button on key chain transmitter or panic button where applicable, hold for 2 seconds (silent) Note: You must Hold a Q1 Emergency call panic button for two seconds, all other calls are rapid-press.

#### Making a Q2 Concierge call:

Press call button twice rapidly. (2'beeps' are heard)

#### Making a Q3 Service Operator call:

*Press call button three times rapidly (3+ 'beeps' are heard)* 

#### Making a Personal call:

Press Call button the required numbers of times for the selected call. ('beeps' are heard for each press).

#### **Arming the System:**

Press the Arm/Disarm button once (3 'beeps' are heard from the CVL speaker and vehicle horn).

#### **Disarming the System:**

Press the Arm/Disarm button once (1 'beep' is heard from the CVL speaker and vehicle horn).

## Things to Remember

- ✓ Arm your system when you leave your vehicle.
- Disarm your system when you return. If you forget, the warning alarm will sound and you have 20 seconds to disarm the system before a silent invalid security entry emergency call is placed.
- ✓ The system will automatically switch into the battery save mode if the engine has been switched off for ½ hour and the CVL is still in the On mode.

# **Configuration Options**

There are two types of configurations. In each configuration there are different optional extras. Be sure you know which configuration your CVL has.

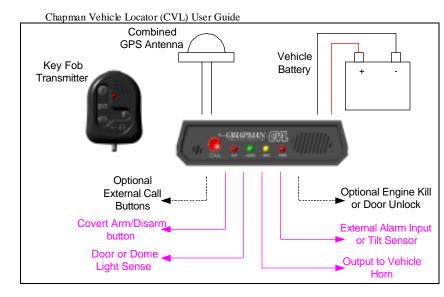
Figure 1 (schematic on next page) depicts the different configurations and the optional features.

#### **Vehicle Locator/Tracking**

The Vehicle Locator/Tracking configuration gives you the ability to locate your CVL, via the C3, and also to make Emergency/Non-Emergency calls using either the key chain transmitter or the Call button on the CVL itself. If the CVL is mounted covertly, a remote external speaker and microphone will have been installed. Otherwise, the CVL will be in view and the internal speaker and microphone on the front face of the CVL will be operational.

### Vehicle Alarm and Locator/Tracking

The Vehicle Security Alarm and Locator/Tracking configuration adds a complete list the alarm features to the Standard Vehicle Locator/Tracking CVL. With this configuration the CVL can be Armed and Disarmed using the key chain transmitter or covert Arm/Disarm button (if installed). Vehicle indication is given when arming, disarming and when the vehicle alarms using the vehicle horn. The CVL will alarm when a door is opened or the Dome light is lit. It will also alarm if the external Alarm input is activated. The external Alarm input could be from a "motion" sensor, air bag-impact detector or a specialized third party alarm (eg. RV gas detectors, factory installed vehicle alarms, etc.). In the event of a non-cancelled alarm, the CVL will make a silent Emergency call to the C3.



<sup>\*</sup> The violet features are the additional features used in the Alarm configuration.

Fig 1. Chapman Vehicle Locator "configuration"

# **Optional Features**

On all configurations there are optional features that may be installed.

#### **Central Station C3 Controlled Output:**

This may be used for either a remote Engine Disable or Door Unlock feature.

#### **External Call Buttons:**

Additional Call buttons can be installed thru out the vehicle (even in the trunk) so that you can make a Q1 Emergency Call from any point in the vehicle. If they are installed ensure you know their location. [See reference notes page 4-Installer.]

#### **External Covert Arm/disarm button:**

This button acts in exactly the same way as the Arm/Disarm button on the Key Chain Transmitter. Its role is as a key chain transmitter back-up.

# **Quick Guide to Understanding the Buttons and Lights Front Panel**

LED Indicators: The CVL has four LED Indicators located on the front panel. [Note: In covert installations they will not be visible.]

- CALL The Large Red Mayday Call button allows you to make emergency and non-emergency calls. It also allows you pick-up an incoming voice call, and to hang-up a non-emergency call.
- O/P The Red C3 controlled output [see C3 Controlled Output on previous page] LED will indicate:

  Bright Red indicates "On," and the output is "active."

  Dull Red indicates "Off," and the output is inactive.
- CONV Green Conversation LED will indicate:

  Bright Green LED "On," indicates the CVL is in a call.

  Dull Green LED "Off," indicates the CVL is not in a call.
- GPS Yellow Global Positioning System LED will indicate:
  Bright Yellow LED "On," indicates the GPS is powered up, receiving good signal and is "tracking" the vehicle.
  Bright Yellow Flashing LED "Searching" indicates the GPS is powered up and is acquiring new satellite locations information.
  Dull Yellow LED "Off," indicates the GPS feature is not on
- or working.

  PWR Red Power and Mode LED will indicate:
  Bright Red LED "On," indicates the CVL is powered on,

and/or the Cellular feature has periodically switched on in the Armed or Battery save modes.

Bright Red Flashing LED indicates the CVL is in the Armed state.

Dull Red LED "Off," indicates the CVL "Off" or in the Battery Save mode.



Figure 2. CVL Front Panel

Chapman Vehicle Locator (CVL) User Guide **Emergency Calls** 

In the event of a life threatening emergency, press and hold Call button for 2 seconds. This will instruct the CVL to make a silent Q1 emergency call to C3. The C3 Operator will then be able to listen in, evaluate the situation and establish a location of the vehicle.

After evaluating the situation, the C3 Operator will then take the appropriate action. This includes alerting the police, activating the CVL speaker and communicating with the occupants in the car, or even killing the vehicle engine with law enforcement authorization (if installed). Additionally, the C3 Operator is able to continuously track the vehicle throughout the call. *Important Note: Only a C3 Q1Operator can hang-up an Emergency Call.* 

#### **Non-Emergency Calls**

Depending upon your service type, the CVL is able to dial up to 9 non-emergency numbers. Depending upon your type of service, non-emergency calls may be made for concierge, Service Operator, or even personal numbers.

To dial a non-emergency call simply press the call button the number of times appropriate to connect to that service or phone number.

Note: Each button press for a non-emergency call need only be held for ½ second. A 'beep' is heard after the first release and on each press of the button thereafter. Once the button is inactive for 2-3 seconds, the selected call is placed.

When the call is completed you may hang-up the call by pressing the call button once and hold for 2 seconds. The CVL will then disconnect. There is no 'beep' associated with this action.

#### The first three button presses are reserved as follows:

- Q1 Life Threatening Emergency
- **Q2** Concierge Services roadside assistance, traffic information, street directions, or any other yellow page services, etc.
- **Q3** Service Operator General enquires, over the air modification of the CVLs features and functionality. (Over the Air or OTA describes commands sent through the cellular network from C3 to the CVL that modify and control features and functionality of the CVL.) To place 3<sup>rd</sup> party calls or receive messages.

Button presses 4 thru 9 are initially set up by the installer and can be modified over the air, if required, by using the 3-button press to the C3 Service Operator.

Whenever the CVL is "On" it can receive calls from either the C3 or from a normal telephone (dependant upon your service contract). When a call is received from the C3, a silent connection is made and you will hear nothing

until the C3 Operator enables/connects to your speaker.

When a call is received that is not from the C3, the CVL will emit a ringing tone and you may answer by pressing the Call button. After the Call button is pressed, the call will connect and a standard hands-free telephone call will take place. To disconnect the call, simply press and hold the call button for 2 seconds.

When the CVL is in the Armed or Battery Save modes it will switch on periodically as programmed (Meantime). Usually will be programmed to be the first 2 minutes of each 15-minute period. When on, the CVL can receive C3 and normal voice calls.

### **Vehicle Alarm Operation**

#### **Arming**

Once the engine is off you can arm the system by pressing the Arm/Disarm button on the Key Chain Transmitter (the covert Arm/disarm button may also be used if installed). Upon Arming, the CVL will emit 3 short 'beeps'. If the CVL external Indicator function has been installed the vehicle horn will also emit three short 'beeps'. The CVL will then wait 40 seconds before arming itself. During the last 10 seconds before arming, the CVL will emit a number of short 'beeps' on the internal speaker only. This is to indicate that the unit is about to arm. When these short 'beeps' have finished, the unit arms. The Red PWR LED on the CVL will then start flashing.

#### Disarming

To disarm the system, simply press the Arm/Disarm button once on the Key Chain Transmitter, or covert arm/disarm button. Upon disarming, the CVL will emit one short 'beep.' If CVL External Visual or Audible Indicator function has been installed, the vehicle horn/lights will also emit or indicate with one short 'beep/flash,' advising/reminding the user the CVL has been successfully disarmed.

#### **Alarm Procedure**

Once armed, the CVL will alarm if any of its external sensors are activated. This could include a motion detector (in the event of being towed), door sense, or even a third party alarm system for special applications (RV gas detectors etc.) In the event of an alarm condition, the CVL will emit an audible warning signal for twenty seconds to remind the owner/user to disarm before an alarm signal is transmitted to C3. This warning signal is also "output" to the vehicle horn [if installed] and will beep the horn. If the CVL has not been disarmed within 20 seconds, the warning alarm will shut off and the CVL will make a silent emergency call to C3.

#### **Remotely Locating the Unit**

- The CVL may be contacted by the C3 Operator in order to validate its location. When the vehicle engine is running, the CVL can be contacted at any time. When the engine is off only during Meantime (the first 2 minutes of each 15 minute period).
- When in Battery Save or Armed modes the CVL will periodically switch on ["Meantime,"] allowing it to be contacted by C3 during these times.
- Should you want to locate your vehicle, please ring your Q3 Service Operator and ask them to locate it for you.
- If the C3 Service Operator cannot contact your vehicle immediately, the CVL may be in the "Battery Save Mode," and you will have to wait until its pre-programmed "Meantime" to be able to locate it.

#### **Vehicle Battery Considerations**

In order to maximize the life of your battery, your CVL has been preprogrammed to turn on for the first 2 minutes of each 15 minutes when in the Armed or Battery Save modes. This is referred to as Meantime.

#### Important Note: Emergency Calls can be placed at any time.

If your vehicle is going to be left for a period of greater than two weeks please contact the Q3 Service Operator (3 button press) and they will reprogram your unit accordingly. This Meantime "reconfiguration" can be carried out instantly with "over the air" commands sent from the Q3 Service Operator to the CVL.

In the event that the CVL is not switched to the Battery Save or Armed mode after the engine is switched off, the CVL will remain on for a period of ½ hour before automatically switching itself into the Battery Save mode.

# **Technical Specifications**

#### Cellular

Compliant Specifications EIA/IS-19-B and EIA/IS-91

Frequency Range 824.010 to 848.970MHz Transmit

869.010 to 893.970MHz Receive

Channel Spacing 30kHz

FCC Class Cellular System Mobile Station Class III

Frequency Stability  $\pm 2.5$ ppm, -30 to +60°C

Typically <0.5ppm

Carrier Switching Times NMT 2ms to within 3 dB of final level

NMT 2ms to decay to -60dBm

Channel Switching Time NMT 40ms

Receiver

RF Sensitivity NLT 12dB SINAD @-116dBm Intermodulation Spurious Response >65dB Attenuation Spurious Response >60dB, >60kHz removed Voice Audio Frequency Response 6dB/octave de-emphasis,

Bandpass filter 300 to 3000Hz

Expandor 6dB/octave, attack time 3±0.6ms,

recovery time 13.5±2.7ms

Hum and Noise >32dB, typ. >40dB ref 1kHz tone,

8kHz deviation.

Audio Harmonic Distortion NMT 5%, Typically 2.3% SAT Tone decoding 3dB above 12dB SINAD level, <250ms

5970, 6000 or 6030Hz, ±2kHz deviation

Data and Control Signals Manchester-encoded NRZ format.

<u>Transmitter</u>

Max RF Power O/P -2dBW, +2/-4dB at external antenna connector

Typically 400mW.

Antenna 450mW ERP nominal.

Frequency Stability NMT 2.5ppm, Typ. 0.2ppm, -30 to +60°C RF Power Trans time NMT 20ms between any two pwr levels. Wideband Data  $\pm 8kHz$  peak dev.  $\pm 10\%$ .

SAT ±2kHz peak deviation ±10% Voice ±12kHz peak deviation ±10%

Voice Modulation Compressor, 1dB output for 2dB input.

Pre-emphasis 6dB/octave

Deviation Limiting ±12kHz peak.

Audio Muting >40dB

FM Hum and Noise >32dB, ref 1kHz tone, ±8kHz deviation

Harmonic and Spurious Emissions Conducted, attenuated >(43+10logW)dB Radiated, attenuated >(43+10logW)dB

#### GPS Receiver

Frequency -L1 frequency, 1575.42 MHz

C/A code direct sequence spread spectrum

Channels 12 parallel channels, continuous tracking

2-bit quantization

Datum User Selectable

Position Accuracy 25 meters Spherical Error Probability

100 meters 2 dimensional RMS.

Acquisition Times (90%)

Cold Start <165 seconds (< 50 secs)
Warm Start <50 seconds (<40 secs)
Hot start <20 seconds (<8 secs)
Advanced Hot Start <2 seconds

N.B. Three satellites required for initial fix, 2 to stay in lock, (1 to stay in

lock)

Re-Acquisition after signal loss <2 seconds (<100mS)

Anti-Jamming Resistance 3 dB degradation in GPS SNR with
-20dBm CW, within ±7.5MHz of L1

The figures in Italics will be valid from March '00 onwards.

### External Connections

External Microphone Miniature jack socket External Loudspeaker Miniature jack socket

Cellular Antenna SMA female GPS Antenna SMA female

Vehicle I/O connections Molex Mini-Fit Junior 16 way

#### <u>Environmental</u>

Temperature  $-30 \text{ to } +60^{\circ}\text{C}$  operating

Humidity 96% RH, non-condensing at 40 °C

Vibration  $0.008g^2/Hz$  5Hz to 20Hz

 $0.05g^{2}/Hz$  20Hz to 100Hz -3dB/Octave 100Hz to 900H

# Power Supply

Primary Power +11 to +16Volts DC Connector Back Up Power Internal Rechargeable Lead-Acid

Battery Nominal 6.0V, 550mAH.

Internal Battery will allow a ½ hour call after vehicle battery is disconnected.

#### **Dimensions**

Weight 19ozs.

Size (inches)  $7.1 \times 5.0 \times 1.3$ 

#### The C3 Central Command Center

C3 is the main station that receives all of your Emergency, Concierge and Service Operator calls. When connected, your operator has available all the information about yourself, your vehicle, your emergency contacts, special medication needs and any other pertinent information you provided when signing up. They can also download your position and can see your current location, speed and bearing. The position information can be continuously updated to allow the Operator to track you accurately and reliably.

#### **Q1** Emergency Operator [Highest Priority]

If a Q1 Emergency call has been placed the connection is silent. The Q1 Emergency Operator will first try to ascertain the situation before enabling the CVL speaker and communicating with the vehicle's occupants. The Q1 Emergency Operator has the ability to conference in or transfer the call to your local emergency services. This is based on your current location. Also depending upon your installation the Q1 Emergency Operator also has the ability to Kill/Disable your vehicle engine. If you are involved in a carjacking (emergency button press) or your car is stolen (automatic call), the Q1 Emergency Operator can silently direct the police to the current location or route of the vehicle. They can then wait for the vehicle to slow down to a safe speed and disable the engine. At any time they can enable the speaker to inform the vehicle's occupant that they are located, and that they have the ability to disable the engine.

# **Q2** Concierge Operator

If a Q2 Concierge or Q3 Service Operator call is made the connection is audible, the operators will answer the call, identify themselves and ask how they may assist you. The Concierge call is a lower priority call. The Concierge Operator can give you directions and route information as well as directing you to the nearest gas station, pharmacist etc. The Q2 Concierge Operator must be used in the event of a breakdown or any other type of automotive service.

#### **Q3 Service Operator**

The Q3 Service Operator has the ability to modify all of the CVL's functions and your information in the client record database.

#### **Frequently Asked Questions**

# How does the C3 operator receive my list of phone numbers and other personal information?

When you purchased your CVL, you provided this information. It was programmed into a computer database at the C3 center.

#### What should I do if my address or other personal information changes?

Press the Call button three times and give your new information to the C3 Service operator.

#### Why is there a pause after I press the Alarm button?

Your CVL uses cellular technology. Just like a cellular phone, when you press the Alarm button, the CVL powers on and connects to the cellular network. Then, it automatically enters the C3 contact number. The number dials through and a C3 Operator answers. Depending on where you are calling from, this connection takes from 20 to 30 seconds.

#### If my call to C3 disconnects, what should I do?

In the event that your call to C3 disconnects, your CVL is programmed to automatically re-call C3 and reestablish a call. If this occurs, it is possible you will get a different C3 Operator.

#### I don't hear any 'beeps' when I start the car or arm/disarm the CVL

The CVL or installation has a fault. Contact your dealer for repair.

#### How can I contact the C3 if my CVL does not make the connection?

Contact your C3 Service Operator from a standard phone by calling 1-800-827-8034.

#### How do I replace my Key Chain Transmitter?

Call your C3 Service Operator at 1-800-827-8034 and request a replacement. Upon receiving your transmitter, call your C3 Service Operator to program your replacement key chain transmitter. The Service Operator will walk you through the easy to follow the programming 'Learning' process.

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#### **Limitations of Use**

The Chapman Vehicle Locator (CVL) is designed to provide the services and uses as described in this document. If used as directed, the CVL will provide a reliable service of cellular communications and GPS location.

The user must note, however, that the CVL is not guaranteed to contact emergency service or to provide a precise location, at all times. Analog cellular services are not available in all areas and, where available, do have limited capacity that means that placing a call does not necessarily result in a connection. Further, the cellular service is such that it is possible for an established connection to be lost, or terminated. Further, GPS reception is subject to many factors and the user should be aware that, in general, it cannot be relied upon to provide a reliable location in any position where there is not a clear view of the sky. The GPS receiver needs to receive signals from at least four satellites in order to calculate a position, and the signals from those satellites have to be above a certain threshold. Thus, any obstruction between the satellites and the CVL, could attenuate the signals below the threshold and hence result in no location or a location that is inaccurate. These conditions include, but are not limited to, such areas as indoors, positions near or adjacent to buildings, city roads with buildings on both sides, shopping malls, under heavy foliage, multistory carparks, etc. Further, the accuracy of the location is dependent upon the accuracy of the map being used to display the location, and Chapman Technologies can accept no responsibility for the accuracy of the map being used, even if supplied by Chapman in good faith.