

## Standard Features of the Concept 100

- **Lifetime Warranty**
- **His & Hers Remote Controls**
- **ACG™ 2 (Anti-CodeGrabbing™)**
- **Extended Range Receiver**
- **Audible Low Transmitter Battery Warning**
- **Built-In 2-Point Immobilizer**
- **Optional Wireless Immobilizer™**
- **FACT — False Alarm Control and Test**
- **Remote Siren Silencing**
- **Dual Zone Piezo Sensor™**
- **Glass Tampering Sensor**
- **Dual-Mode “Chirp” Silencing**
- **Patented UltraSecure Coded Valet Mode™**
- **Optional DataPort™ Interface to Your Own PC**
- **Point-and-Click Feature Programming**
- **Complete System Diagnostics At-A-Glance**
- **High-Output Insignia Siren**
- **Remote Door Locking/Unlocking\***
- **Remote Panic with Smart Locking/Unlocking\***
- **Built-In Dual Parking Light Flasher with Onboard Relay**
- **Remote Controlled Courtesy Lighting Output**
- **Remote Keyless Entry and Accessory Activation Even in Valet Mode**
- **Patented Smart AutoTesting™**
- **Smart Remote Trunk Release**
- **User-Selectable AutoArming**
- **AutoArm & Lock with Visual Indication**
- **Instant AutoArm Bypass**
- **Patented Malfunction AutoBypass™ with AutoReMonitoring**
- **Patented SmartPowerUp™ 2**
- **Multiple Vehicle Control with Same Remote**
- **Eight-Event TotalRecall™**
- **Patented Smart Prior Intrusion Attempt Alert**
- **Patented Remote Control Code Learning and MultiRemote Recognition**
- **Clear All Remotes**
- **High-Luminescence LED Status Indicator with Automatic Battery-Saving Mode**
- **Full-Time SecureAccess™ Programming**
- **Advanced CMOS Microcomputer**
- **Pre-Loomed Wiring**
- **2 Accessory Outputs with Selectable Output Type**
- **Integrated Electronic Timer for Remote Headlight Activation and Timed Turbo Cooldown**
- **Installer-Selectable Door Ajar/Delayed Courtesy Lights**
- **Prewired LED, Sensor and PlainView 2 Switch Connectors**

\*Programmable (+) or (-) require relays.

## System Components

The Concept 100 installation kit contains the following components:

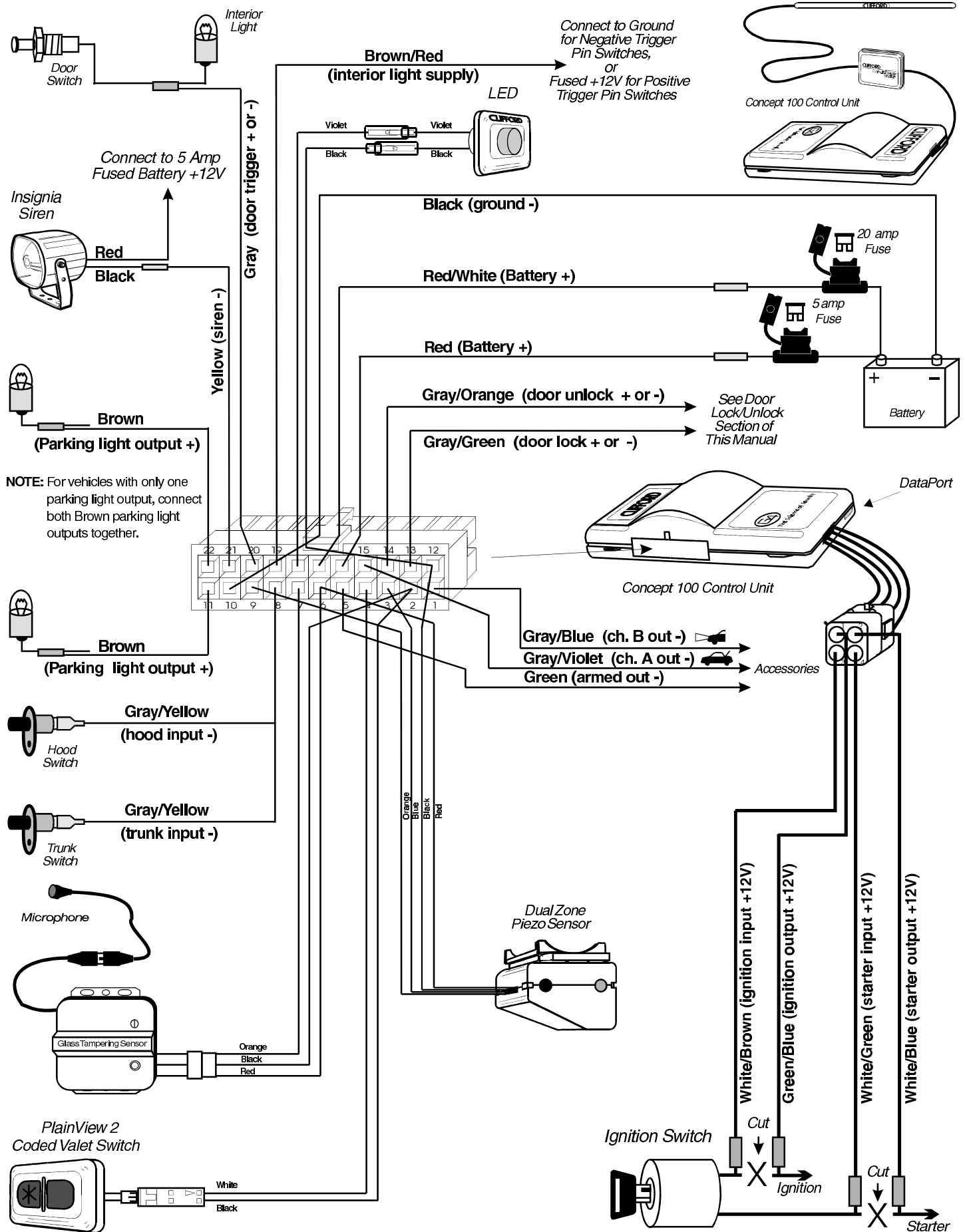
- One Prewired 22-pin connector harness
- One Prewired 4-pin connector harness
- One Concept 100 Control Unit
- One Hardware Kit
- One Glass Tampering Sensor
- One Dual Zone Piezo Sensor
- Two Remote Transmitters
- One Extended Range Receiver
- One Insignia Siren
- One PlainView 2 Coded Valet Switch
- One Prewired LED
- One User's Manual
- Two Clifford Window Decals

### ***Wiring Description for the 4-Pin Connector***

<b><i>Pin</i></b>	<b><i>Wire Color</i></b>	<b><i>Connects to</i></b>
1	Green/Blue	Ignition Output
2	White/Blue	Starter Output
3	White/Brown	Ignition Input
4	White/Green	Starter Input

### ***Wiring Description for the 22-Pin Connector***

<b><i>Pin</i></b>	<b><i>Wire Color</i></b>	<b><i>Connects to</i></b>
1	Gray/Blue	Auxiliary B output (-)
2	Black	Ground for the Valet Switch and Glass Tampering Sensor
3	Blue	Dual-Zone Piezo Sensor input (-) Warning Zone
4	White	Valet Switch input (-)
5	Green	Armed output (-)
6	Red	Power for the Dual-Zone Piezo and Glass Tamp. Sensors
7	Orange	Glass Tampering Sensor input
8	Gray/Yellow	Trunk and hood trigger input (-)
9	Orange	Dual-Zone Piezo Sensor input - Trigger Zone
10	Black	Battery negative
11	Brown	Parking light output (+)
12	Black	ground for both sensors, LED connectors, and Valet Switch
13	Gray/Green	Door lock output (+) or (-)
14	Gray/Orange	Door unlock output (+) or (-)
15	Gray/Violet	Auxiliary A output (-)
16	Red	Battery positive through 5 Amp fuse
17	Red/White	Battery positive with 20 Amp fuse
18	Violet	LED output (+)
19	Brown/Red	Interior light supply (+) or (-)
20	Gray	Door trigger input (+) or (-)
21	Yellow	Siren output (-)
22	Brown	Parking light output (+)



## ***Passenger Compartment Connections***

### ***Control Unit and External Receiver***

***The Concept 100 control unit must be installed inside the vehicle. Under no circumstances should the unit be installed under the hood or other similarly hostile environment.***

1. Select an area behind the dash to mount the control unit using wire ties, but do not permanently affix it until all wiring and testing is complete.
2. Plug the extended range receiver in to the control unit. Mount the extended range receiver away from the control unit and run the antenna either up the window pillar and affix it to the windscreen, or under the dash, away from metal. The position and location of the receiver will effect remote control range. Do not fold the excess cable or antenna wire. Do not make hard, sharp bends..

### ***Door Trigger/Interior Light Supply***

Please refer to the ***Door Trigger & Interior Light Supply*** section in this binder for information on polarity testing and connections.

### ***Central Door Locking System***

Please refer to the ***Door Locks*** section in this binder for information on circuit types and connections. When adding an IntelliStart 4 to the Concept 100, it is recommended that RPM-dependent door locking be selected. The RPM-dependent door locking feature is only available with the addition of the IntelliStart 4.

### ***LED Status Indicator***

Select a prominent location on the dash or console visible through all windows. Discuss placement with the owner.

1. Verify there is adequate space to accommodate the LED, then drill a 5/16" (8mm) hole and route the wires through it.
2. Mate the LED connectors to the VIOLET and BLACK wire connectors as shown in the diagram on page 3.
3. Press the LED into place.

### ***PlainView 2 Coded Valet Switch***

1. Discuss placement of the switch with the vehicle owner and avoid placing the switch where it can be pressed accidentally.
2. Verify there is adequate space behind the selected location to accommodate the switch.
3. Drill a 5/16" (8mm) mounting hole, then insert the wires through the hole and mount the switch.
4. Mate the switch's locking connectors to the WHITE and BLACK locking connector.
5. Remove the adhesive backing and press into place.

### ***Dual-Zone Piezo Sensor***

Mount the Dual-Zone Piezo Sensor in the passenger compartment, not in the engine compartment.

1. Firmly mount the sensor near the base of the steering column (if the steering column has a rotating sleeve, firmly screw the sensor to the interior firewall, kick panel or trunk wall). Make certain that the adjustment screw is accessible.
2. Mate the sensor to the connector on the wireloom from the control unit with the BLACK, RED, ORANGE and BLUE wires.

### ***Glass Tampering Sensor***

Mount the Glass Tampering Sensor in the passenger compartment, not the engine compartment.

1. Mount the microphone holder so that it points into the passenger compartment, but will not be exposed to direct sunlight.
2. Plug the microphone into the sensor (an optional second microphone can be added to vans and other large vehicles for increased sensitivity and better discrimination).
3. Mate the sensor to the connector on the wireloom from the control unit with the BLACK, RED and ORANGE wires.

## Passenger Compartment Connections (Continued)

### Trunk Trigger

Vehicles with a ground-switching trunk light will interface directly with the Concept 100 (on positive switching Rolls-Royce vehicles, use a relay to invert polarity). The switch may be located in or near the trunk latch or at the trunk light. If a switch cannot be located, you must add a pin switch in a location away from water channels.



**NOTE: If the vehicle has a dashboard trunk ajar Parking, install a 1A diode between the light and switch with the diode band pointing toward the switch.**

1. Connect the GRAY/YELLOW wire to the trunk switch (between the diode and switch if you added a diode).


### Parking Light

See the **Door Trigger/Parking Lights** section in this binder.

### Auxiliary A with Selectable Output Type

The Auxiliary A output (GRAY/VIOLET wire) can be programmed as either pulsed, latched or timed and can be programmed to operate only when the system is armed (e.g., for use as a remote trunk release). Auxiliary A output is activated by pressing the  button on the remote control. The factory setting is pulsed output (0.5 second ground). The latched output stays at ground until the  button is pressed a second time, and the timed output stays at ground for any selected duration between one second and four minutes. See *Installer-Programmable Features* on page 10 for information on programming the output type and/or disabling operation while the system is disarmed. See the programming instructions on page 10.

### Auxiliary B with Selectable Output Type and AutoActivation

The Auxiliary B output (GRAY/BLUE wire) can be programmed as either pulsed, latched or timed. It can also be programmed to automatically activate every time the system is remotely armed. The output is activated by pressing the  button on the remote. Current is limited to 0.25 amp. AutoActivation is perfect when programmed as a timed-output to close the power windows and sunroof on vehicles that have an all-close feature (see the *Window Control* section of this binder for more information on wiring this feature). See *Installer-Programmable Features* on page 10 for more information on programming output type and/or enabling the AutoActivation feature.

**See the Window Control section of this binder for information on using the system timer for Window RollUp, timed headlight activation, or as a turbo-timer for cool down.**

### Starter and Ignition Immobilisation Circuits

1. Locate the ignition switch wireloom under the dash and use a voltmeter to locate the one wire that carries + 12V throughout **BOTH the cranking AND engine running cycles**, and 0 volts when the ignition is off.
2. Start the engine, then cut the ignition wire. The engine should stop running.
3. As shown on page 3, connect the WHITE/BROWN wire to the **key side** of the cut ignition line.
4. Connect the GREEN/BLUE wire to the **engine side** of the cut ignition line.
5. Use a voltmeter to locate the **one** wire that carries + 12V during the **cranking cycle ONLY**. Cut this wire, then try to start the engine. It should not crank.
6. Connect the WHITE/GREEN wire to the **key side** of the cut starter line.
7. Connect the WHITE/BLUE wire to the **engine side** of the cut starter line.

**NOTE: The starter circuit may carry a very high current. Be certain that the starter wire connections are solid.**

## Engine Bay Connections

### High Output Insignia Siren

Mount the siren in the engine compartment away from hot or moving parts and where it cannot be reached from under the vehicle, preferably opposite the exhaust system. Point the siren down to avoid water collection (see the illustration).

1. You must firmly secure the siren to the engine bay firewall or a fender well using all three sheet metal screws supplied.
2. Using the supplied connector, connect the wireloom's YELLOW wire to the BLACK siren wire.
3. Connect the RED wire through the 5A fuse coming from the battery positive cable clamp.

**Hood Trigger**

Vehicles with a ground-switching hood light will interface directly with the Concept 100 (on positive switching Rolls-Royce vehicles, use a relay to invert polarity). The switch may be located in or near the hood latch or at the hood light. If a switch cannot be located, you must add a pin switch in a location away from water channels.

- 1. Connect the GRAY/YELLOW wire to the hood switch.

**Final Wiring Connections**

- 1. Connect the RED wire to the 5A fuseholder as shown on page 3.
- 2. Connect the RED/WHITE wire to the 20A fuseholder as shown on page 3.
- 3. Attach the two fuseholders to the battery positive cable clamp.
- 4. Attach the BLACK wire to the vehicle battery negative cable clamp.

**NOTE: Power and test accessories after the basic system has been tested. Individually fuse all accessory power connections. Individually fuse all +12V connections.**

**SmartPowerUp™ 2**

SmartPowerUp 2 ensures that the system powers up in the same state (disarmed, armed or valet mode) it was last in. When you first power up the system, it will silently enter its disarmed state.

**Delayed Courtesy Lights**

Some vehicles have a courtesy light delay or dimming circuit, which interferes with an alarm being able to detect the door trigger upon remote arming. If the delay or dimming lasts more than 5 seconds, no special connections or testing are needed, simply turn on the *Delayed Courtesy Lights* feature as noted in the *Installer-Programmable Features* section on page 10. Please note that since this feature sets the system to arm the instant the courtesy lights are off, the Door Ajar Warning feature will not be available.

**Remote Control Channel Assignments**

The Concept 100 comes with two ergonomically designed remote controls. Up to two additional Clifford ACG 2 remote controls can be added (older Clifford ACG and non-ACG remotes are not compatible with the Concept 100). For instructions on how to use the remote controls, please refer to the Concept 100 User’s Manual.

**Master Remote Control**



Function	Press button(s)
Arm/Disarm	[Car Lock/Unlock]
Activate Auxiliary A* (usually remote trunk release)*	[Trunk Release]
Silent Arm/Disarm	[Car Lock/Unlock] + [Star]
IntelliStart 4 or Other Wired Accessory*	[Star]
Activate Auxiliary B* (such as timed headlight activation)	[Horn]
SmartWindows 4 Accessory*	[Car Lock/Unlock] + [Trunk Release]
Remote Valet Mode Enter/Exit*	[Horn] + [Star]
Unassigned*	[Trunk Release] + [Horn]
Unassigned*	[Trunk Release] + [Star]
Unassigned*	[Car Lock/Unlock] + [Horn]

**\*These channels can be assigned to control other Clifford ACG 2 systems and accessories on the customer’s other vehicles.**

### ***FACT—False Alarm Control and Test***

The system microprocessor automatically checks for another activated sensor or trigger before sounding the siren a second time, thus preventing any further false alarms. If you wish to test FACT, simply,

1. Arm the system with the remote control.
2. Wait 10 seconds after the interior light turns off, then trigger the Dual-Zone Piezo Sensor to activate the siren.
3. Do not disarm the system, let the siren complete its cycle.
4. Trigger the sensor again. The alarm should be silent.
5. Unlock and open a door. The alarm should sound immediately. You may now disarm.

### ***Eight-Event TotalRecall***

The system's nonvolatile memory records the identity of the last eight activated or malfunctioning triggers and sensors.

***NOTE: The CliffordWizard displays the Eight-Event TotalRecall data in a graphical format.***

1. With the ignition OFF, press and hold the unmarked side of the PlainView 2 Switch.
2. Press remote control button 1 to "arm," and then again to "disarm," and then release the button.
3. The LED will flash 1–10 times, pause, then flash 1–10 times, etc. Write down the number of flashes in each cycle.
4. Refer to the following chart. The first number you wrote down was the most recently activated trigger or sensor. The next number is the second most recent, and so on up to as many as the last eight activations.

<i>Number of LED flashes between pauses</i>	<i>Trigger/sensor indication</i>
1 flash	Glass Tampering Sensor
2 flashes	Dual-Zone Piezo Sensor
4 flashes	Door Trigger
5 flashes	Trunk Trigger/Hood Trigger (trunk only, if IntelliStart 4 has been installed)
6 flashes	Hood Trigger (only if optional IntelliStart 4 has been installed)
7 flashes	An attempt was made to turn on the ignition or start the engine while the system was armed
8 flashes	More than three consecutive incorrect valet codes were entered
10 flashes	System Power Interruption

5. If a sensor is often activated, decrease that sensor's sensitivity (or reposition the sensor, if necessary). If a certain trigger is often activated, check pin switch operation, verify that the pin switch is not exposed to moisture and check the trigger wire for possible shorting.

## Programmable Features

Concept 100 comes from the factory with its features preprogrammed as noted in **bold** text in the tables on pages 9 and 10. Some features can be programmed by the installer or the user, others can only be programmed by the installer. There are two tables provided which define the user-programmable and installer-programmable features.

### Using the CliffordWizard

The CliffordWizard provides almost intuitive access to all installer and user-programmable features through a user-friendly, graphical user interface. Because CliffordWizard is Windows™-compatible, most operations can be accomplished by simply pointing and clicking a mouse. CliffordWizard totally eliminates complicated programming charts and lengthy programming sequences. Please refer to the *CliffordWizard User's Guide* for more programming information if you are using the CliffordWizard. Otherwise, for manual programming refer to the tables provided in the following sections.

### Programming the User-Selectable Features

1. Write down the column (across) number and row (down) number of the feature(s) you wish to program.
2. Turn the ignition to the "ON" position or start the engine.
3. Enter the factory preset valet/programming code of "2" by pressing the PlainView 2 Switch's ★ button twice, then press the unmarked button.
4. After entering the code, press and hold the ★ for about 3 seconds until you hear one siren chirp and the LED turns on to acknowledge program mode entry. The Concept 100 is now in the "Feature Select" position for User-Programmable Features.
5. Select the feature column: Press the unmarked button the same number of times as the column number. Pause. You will then hear the same number of chirps as the column number you have selected, audibly confirming your selection.
6. Within five seconds, select the feature row: Press and release the ★ button the same number of times as the feature's row number. You'll hear a chirp each time you press the button to help you count.
7. If there is a NOTE for the selected feature, perform the actions noted.
8. Pause. You will hear either one or two chirps: two chirps = ON, one chirp = OFF.
9. You can select another feature, or you can exit program mode:
  - a. **To select another feature** in that same column, repeat step 6 within the next five seconds (after five seconds, three chirps indicate that the Concept 100 is now back in the "Feature Select" position).
  - b. **To select a different feature** column, repeat step 5.
  - c. **To exit program mode**, turn the ignition off (you'll hear three chirps and the LED will turn off to indicate exit of program mode), or wait 60 seconds and the Concept 100 will automatically exit program mode.

It may sound a little complicated, but it really isn't. Briefly, here is all you do: choose the feature you want to change, enter program mode, select that feature's column and row, wait for the on/off chirp confirmation, then turn off the ignition. *That's it!*

## User-Programmable Features

User-Programmable Features (1 Chirp = OFF, 2 Chirps = ON)

Feature Select	Unmarked 1	Unmarked 2	Unmarked 3	Unmarked 4
★ 1	Add New Remote <b>NOTE 1</b>	Chirps (Off/On/Quiet) (1 chirp/2 chirps/3 chirps)	AutoArming (Off/On)	Arm/Disarm with Secondary Remote <b>NOTE 5</b>
★ 2	Personalized Siren Sounds* <b>NOTE 2</b>	<b>NOT USED</b>	AutoArm & Lock (Off/On)	Trunk Release with Secondary Remote <b>NOTE 6</b>
★ 3	Play Siren Sounds*	Remote Valet Feature (On/Off)	<b>NOT USED</b>	Silent Arm/Disarm with Secondary Remote <b>NOTE 6</b>
★ 4	Siren Duration (30/60/90 seconds)	AutoStart Neither/Battery/Temperature/Both) (1 chirp/2 chirps/3 chirps/4 chirps) (Requires IntelliStart 4)	FACT (Off/On)	<b>NOT USED</b>
★ 5	AutoLock (Off/On/RPM) (1 Chirp/2 Chirps/3 Chirps) (IntelliStart 4 required for RPM dependent door locking)	<b>NOT USED</b>	<b>NOT USED</b>	Remote Start with Secondary Remote (Requires IntelliStart 4) <b>NOTE 6</b>
★ 6	AutoUnlock (Off/On)	Clear All Remotes <b>NOTE 4</b>	<b>NOT USED</b>	Window Rolldown/Venting with Secondary Remote* (*Requires SmartWindows 4) <b>NOTE 6</b>
★ 7	Reset All to Factory Settings (except remote controls and valet code) <b>NOTE 3</b>	Valet Code <b>SHOULD ONLY BE PROGRAMMED BY THE VEHICLE OWNER</b>	<b>NOT USED</b>	Remote Valet Mode with Secondary Remote <b>NOTE 6</b>

\*Requires SmartSiren 4

- **NOTE 1:** Press the button on the remote to be programmed, you will hear one chirp. Press the button *again*, you will hear two chirps.
- **NOTE 2:** When this feature is selected, siren sound 1 will play for five seconds. Press ★ to turn the siren sound off, press unmarked to activate the sound. Next, siren sound 2 will play for five seconds. Press ★ to turn the siren sound off, unmarked to activate it. This system will cycle through all six siren sounds, repeat this procedure for each sound.
- **NOTE 3:** You will hear two chirps when all features are reset.
- **NOTE 4:** When you hear two chirps, all remote controls will have been erased from the system memory. You must now add the new and/or existing remote controls to the system (i.e., AutoProgram each remote that will be used with the Concept 100).
- **NOTE 5:** Programs a remote control from any other Clifford system (that uses ACG 2 technology) to arm or disarm the vehicle. For instance, to set the button + ★ combination of the other car's master remote control to arm/disarm the system, select column 4, row 1, then transmit the + ★ button combination from the remote you are programming. The system will respond with one chirp. Immediately press the button combination a second time. The system will respond with two chirps. The other vehicle's remote will now arm/disarm the system by pressing the and ★ buttons simultaneously.
- **NOTE 6:** This feature can be controlled by a secondary remote or any remote control of any other ACG 2 system, after that remote has been programmed to arm/disarm this system. Select the row and column number, then transmit the unused button on the other remote that you want to use to perform that function. The system will respond with the same number of chirps as the row number. Please note that you must first set a button on the remote that will arm/disarm the system (column 4, row 1) before these others will be accepted.

## Installer-Programmable Features

To access the installer-programmable features, use the procedure defined in the User-Programmable section, but after completing step 4, continue to press and hold the ★ side of the PlainView 2 Switch for another 10 seconds. You will hear three confirmation chirps indicating that the system is in installer-program mode.

Table of Installer-Programmable Features: 1 chirp = OFF, 2 chirps = ON.

Feature Select	Unmarked 1	Unmarked 2	Unmarked 3
★ 1	Single/Double Lock Pulse (1 chirp/2 chirps)	Accessory Output Timer Duration (10 Seconds) <b>NOTE 1</b>	Door Ajar Warning/Delayed Courtesy Lights (1 chirp/2 chirps)
★ 2	Single/Double Unlock Pulse (1 chirp/2 chirps)	Auxiliary A type (Pulsed/Timed/Latched) (1 chirp/2 chirps/3 chirps)	Auxiliary A Interlock (On/Off)
★ 3	Lock/Unlock Pulse 1 second/3 second (1 chirp/2 chirps)	Auxiliary B type (Pulsed/Timed/Latched) (1 chirp/2 chirps/3 chirps)	Auxiliary B Interlock On/Off
★ 4	Door Lock Polarity Positive/Negative (1 chirp/2 chirps)	Diesel Engine/Petrol Engine (1 chirp/2 chirps) (Requires Optional IntelliStart 4) <b>NOTE 2</b>	AutoActivate Auxiliary B (On/Off)
★ 5	Program RPM (Requires Optional IntelliStart 4)	Program Optional SmartWindows 4 or Learn PageMate 4 ID	<b>NOT USED</b>

**NOTE 1:** Once this feature is selected, you will hear one chirp to confirm that the timer has started. You can set this anywhere from one to 4.25 minutes (255 seconds). When the desired duration has been reached, press the unmarked side of the PlainView 2 switch. You will hear two chirps to confirm the new system timer duration.

**NOTE 2:** After programming either petrol or diesel, you must perform the mandatory RPM programming.

## System Checklist & Troubleshooting

The following checklist and troubleshooting tips will assure that you have installed the Concept 100 correctly. If the system does not react as noted, follow the troubleshooting tip(s) denoted with a black box below that item, then repeat the step. Each successive step requires that the previous step has been completed as indicated.

### Step 1.

#### Re-enable the courtesy lights.

In step 1 of the **Important Information** section (the first tabbed section) in this binder, the interior courtesy lights were disabled. You must now re-enable the courtesy lights by replacing the fuse you removed or reset the courtesy light switch back to its normal "DOOR" position before proceeding.

### Step 2.


#### Test the Immobilisation circuit.

- Arm the Concept 100 (either from inside or outside the vehicle) and wait 10 seconds. Turn the ignition to the "ON" position.
  - **Engine does not respond and alarm triggers.** This is the correct response, proceed to step 3.
  - **Engine starts or cranks.** The starter immobilisation circuit has been miswired. Carefully retest the vehicle wires as noted in the *Starter and Ignition Immobilisation Circuit* section on page 5.
  - Engine still starts or cranks after retesting all the wiring as noted on page 5, check the power and ground connections. Then make sure the fuses are in the fuseholders, verify the control unit connectors are securely fastened, verify the ignition wires are connected to the true ignition line instead of a 12V or accessory line, and verify that the transmitters are programmed correctly.


## System Checklist & Troubleshooting (Continued)

### Step 3.

#### Test the chirps.

Close all doors and arm the Concept 100 by pressing the  button on the remote control.

■ **2 Chirps:** This is the correct response. Proceed to step 4.

■ **1 Chirp:** If you hear only one chirp, the Concept 100 had previously armed itself passively and by pressing the  button, the system disarmed (remote disarming is acknowledged with one chirp and one Parking light flash). Disarm and rearm the system.

■ **4 Chirps:** If you hear 4 chirps either immediately or 5-10 seconds after the initial two chirps, a trigger or sensor is open or active, or the vehicle has delayed courtesy lights and the Delayed Courtesy Lights feature has not been programmed on. Disarm with the remote control, enter the vehicle and turn on the ignition. The LED will flash 1–10 times, pause, then repeat the same number of flashes (the flash cycle repeats five times for your convenience). Refer to the following chart.

Number of LED flashes between pauses	Trigger/sensor indication
1 flash	Glass Tampering Sensor
2 flashes	Dual- Zone Piezo Sensor
4 flashes*	Door Trigger*
5 flashes	Trunk Trigger/Hood Trigger (trunk only, if IntelliStart 4 has been installed)
6 flashes	Hood Trigger (only if IntelliStart 4 has been installed)
7 flashes	An attempt was made to turn the ignition "ON" or start the engine while the system was armed
10 flashes	Power Interruption

\* If the delayed courtesy lights feature is activated, this trigger indication will not be provided.

☐ If the *door trigger* is indicated, activate the delayed courtesy lights feature.

■ **No chirps.** If there are no chirps, verify that the Chirps feature (User-Programming - column 2, row 1) is "On" and check the wiring connections as noted in the *High Output Siren* section on page 5.

**NOTE: If none of the troubleshooting techniques described in steps 3 - 7 corrects the problem, perform the following diagnostics:**

- ☐ Make sure the fuses are in the fuseholders.
- ☐ Check the power and ground connections.
- ☐ Verify that the control unit connector is properly inserted into the control unit.
- ☐ Verify that the ignition input and output wires are connected to the true ignition line instead of a 12V line. Find the true ignition line by following the appropriate steps of the *Starter and Ignition Immobilisation Circuit* section on page 5.
- ☐ Verify that the transmitters are programmed correctly.

**NOTE: If the 20A fuse blows upon arming:**


- ☐ Disconnect the Concept 100's two Parking light wires, replace the 20A fuse and rearm. If the fuse blows while the Parking light wires are disconnected, the door locks are not wired correctly. Reconnect the vehicle's power locking system to its original condition, then retest the voltages as indicated in the *Central Door Locking/Unlocking* section of this binder and wire the locks as indicated, then replace the 20A fuse.

### Step 4.

#### Test the Parking lights.

Arm the system by pressing the  button on the remote control.

■ **Two flashes.** This is the correct response, proceed to step 5.

■ **One flash.** If the Parking lights flash only once, the Concept 100 had previously AutoArmed itself passively and by pressing the  button the system disarmed (remote disarming is acknowledged with one chirp and one Parking light flash). Disarm and rearm the system.

■ **No flashes.** If no flashes, verify the Parking light bulbs are operational. If not, they must be replaced. If so, repeat steps 1-5 of the *Parking Lights* section in this binder.

**Only one side flashes.** If only the right or the left side Parking lights flash, see the **Parking Lights** section in this binder.

## System Checklist & Troubleshooting (Continued)

### Step 5.

#### Test the door locks.

Arm the system by pressing the  button on the remote control.

■ **Doors lock.** This is the correct response, proceed to step 6.

■ **Doors do not lock.** You either selected the wrong door lock diagram, connected the wires incorrectly, or a servo may be required. Reconnect the vehicle's power locking system to its original condition, then retest the voltages as indicated in the **Door Locking/Unlocking** section of this binder and wire the locks as indicated. Polarity programming should also be verified.

**WARNING:** If the doors do not lock, DO NOT activate the vehicle's lock switches. If the locks have been miswired, doing so may damage the Concept 100 control unit, the vehicle's electrical system and/or the power lock servo motors.

■ **Doors unlock.** You either selected the wrong door lock diagram, connected the wires incorrectly, or a servo may be required. Reconnect the vehicle's power locking system to its original condition, then retest the voltages as indicated in the **Door Locking/Unlocking** section of this binder and wire the locks as indicated.

■ **Only one door locks.** You either selected the wrong door lock diagram, connected the wires incorrectly, or a servo may be required. Reconnect the vehicle's power locking system to its original condition, then retest the voltages as indicated in the **Door Locking/Unlocking** section of this binder and wire the locks as indicated.

### Step 6.

#### Test the LED.

Arm the system by pressing the  button on the remote control.

■ **Flashes repeatedly.** This is the correct response, proceed to step 7.

■ **No flashes.** If the LED does not flash, verify that the LED's VIOLET and BLACK wires are solidly connected to the same color wires on the Concept 100's wireloom. **Warning:** This is a 2-volt LED, testing with 12 volts will destroy the LED.

### Step 7.

#### Test the Valet Switch.

■ Test the valet code and switch operation. Use the instructions provided on page 8 to enter programming mode. If the system enters programming mode, the switch and valet code are in operating order. If not, perform the following tests:

■ Check the WHITE/BROWN wire, ignition input is on and verify that it shows + 12V when the ignition is turned ON and + 0V when the ignition is OFF. If not, refer to the *Starter and Ignition Immobilization Circuit* on page 5.

■ Test the WHITE wire at the control unit connector. It should rest at 5 volts. When pressing the marked side, it should read 3 volts and when pressing the unmarked side it should read 0 volts. If any reading is incorrect, move the voltmeter to the BLACK wire at the valet switch. It should read 0 volts at rest, 0 volts when the marked side marked is pressed, and 0 volts when the unmarked side is pressed. If the BLACK wire tests correctly and the WHITE wire does not, replace the switch. If the BLACK wire tests incorrectly, repair the ground circuit. If both wires test correctly, then the valet code has been changed. Use the CliffNet Wizard Pro to reset the valet code.

### Step 8.

#### Test the Dual-Zone Piezo Sensor.

■ Arm the system and tap the car softly with your fist. The following should occur:

□ **Siren chirps five times.** Proceed to the next test.

■ Hit the car firmly with your fist. The following should occur:


□ **Alarm triggers.** Proceed to step 9.

If either of these test fail, adjust the sensor using the adjustment knob and retest.

## System Checklist & Troubleshooting (Continued)

### Step 9.


#### Test the disarm function.

- Disarm by pressing the  button on the remote control. The following should occur:
  - **Siren chirps once.** If the siren does not chirp once, refer to step 3.
  - **Parking lights flash once.** If the Parking lights do not flash once, refer to step 4.
  - **LED stops flashing.** If not refer to step 6.
  - **Doors unlock.** If not refer to step 5.
  - **Immobilizer circuits immediately disengage** (test this by turning the key in the ignition switch; the engine should crank, start and idle normally). If the Immobilizer circuits do not disengage, refer to step 2.
  - **Interior courtesy light(s) turn on** and stay on for 30 seconds or until the ignition is turned on, whichever occurs first.
    - If the interior light(s) do not turn on, verify that you replaced the interior light fuse you removed or have turned the lights back on as noted in step 1 of this section.
    - Check the Concept 100's 10A fuse. If the fuse blew when you disarmed, the vehicle uses a positive door trigger and you connected the interior light supply wire to ground instead of + 12 volts. Replace the 10A fuse and retest.
    - Check the door trigger circuit. See step 10 for more information on testing the door trigger circuit.

### Step 10.

#### Test the door trigger circuit.


Rearm the system. Wait at least 10 seconds (if the vehicle has delayed or dimming courtesy lights, be sure to wait at least 10 seconds after the interior lights have turned off). Use the key to unlock and open the driver's door.

- **Siren sounds, parking lights flash repeatedly.** This is the correct response, proceed to step 11. (You can silence the siren by pressing the  button on the remote control once or disarm by pressing the button twice.)
- **Siren does not sound immediately.** If the alarm does not sound immediately when one of the doors is opened, make sure that that door's pin switch is working properly and, when open, is consistently showing less than 1.5 volts if the vehicle has negative-switching door triggers or more than + 11 volts if the vehicle has positive-switching door triggers, also make sure the pin switch is connected to the correct wire. If not, then the door pin switch (or pin switches) is either defective or in need of cleaning.

### Step 11.

#### Test the trunk trigger circuit.


Arm the system, then use the key to unlock the trunk.

- **Siren sounds immediately, Parking lights flash repeatedly.** This is the correct response, proceed to step 12. (You can silence the siren by pressing the  button on the remote control or disarm by pressing the button twice.)
- **Alarm does not sound immediately.** If the alarm does not sound immediately, make sure that the trunk pin switch is working properly and, when open, is consistently showing less than 1.5 volts. Also make sure the trunk pin switch is connected to the correct wire. If not, the trunk pin switch must be thoroughly cleaned or replaced, or polarity may need to be inverted.

### Step 12.

#### Test the hood trigger circuit.

Arm the system, then open the hood. The following should occur:

- **Siren sounds immediately, Parking lights flash repeatedly.** This is the correct response, proceed to step 13. (You can silence the siren by pressing the  button on the remote control or disarm by pressing the button twice.)
- **Alarm does not sound immediately.** If the alarm does not sound immediately, make sure that the hood pin switch is working properly and, when open, is consistently showing less than 1.5 volts. If not, the hood pin switch must be thoroughly cleaned or replaced, or polarity may need to be inverted.

### Step 13.

#### Test the AutoArming feature.

Turn the ignition "ON" and let the car idle for 10 seconds. Turn the ignition "OFF," then open and close the door. Wait five seconds.

- **Parking lights flash twice.** 25 seconds later, the vehicle arms passively as **indicated by a rapidly flashing LED**. This is the correct response, proceed to step 14.
- **System does not passively arm.**
  - Make sure that Instant AutoArming has been turned on using the programming instructions on page 9.
  - Verify the door trigger connection (see step 10).

## System Checklist & Troubleshooting (Continued)

### Step 14.

#### Test the AutoArming Bypass feature.

Disarm the system. Turn the ignition to the "ON" position, then turn the ignition "OFF."

- **One Chirp.** This is the correct response, wait 30 seconds after the interior lights have turned off to insure the system does not passively arm. Proceed to step 15.

### Step 15.

#### Test remote control range.

Stand approximately 100 feet from the vehicle and use the remote control to arm and disarm the system.

- The Concept 100 will respond with the previously noted indications for arming and disarming. If not:
  - Reposition the antenna as high up as possible under the dash or on the windshield and as far as possible from heavy wirelooms and metal. Rotate the extended range receiver 90 degrees and re-test.
  - Make sure that the remote control battery measures at least 3 volts *while* transmitting.
  - Make sure that the voltage at the control unit between the 5A fused power line and each of the two ground lines measures at least 12.0 volts (if less, make sure both chassis grounds are solid; if the grounds are solid, the vehicle battery may need charging, servicing or replacement).

### Step 16.

#### Distribute all necessary paperwork including:

- User's Manual must be given to the customer.
- Adhere the Clifford window decals to the vehicle's windows after discussing placement with the vehicle owner.

### Step 17.

#### Demonstrate Basic System Operation:

- Remote control operation:
  - Arming/disarming and locking/unlocking
  - Remote Valet Mode Activation
  - Panic feature
  - Accessory Activation
- AutoArming and AutoArming Bypass
- Immobilisation
- Valet code entry
- User-programming mode