

Model 2000
Owner's Guide

[Limited Lifetime Consumer Warranty]

For a period of one calendar year from the date of purchase of this auto-security device, Directed Electronics, Inc. promises to the ORIGINAL PURCHASER to repair or replace (with a comparable reconditioned model), free of cost, any electronic control module which proves to be defective in workmanship or material under normal use, SO LONG AS THE SYSTEM WAS SOLD, INSTALLED, AND SERVICED BY A PROFESSIONAL AUTO INSTALLER, AND REMAINS IN THE CAR IN WHICH THE SYSTEM WAS ORIGINALLY INSTALLED. If warranty service is necessary you must have a clear copy of your sales receipt containing all of the information shown on the following page.

After the first calendar year, from the date of purchase of this auto-security device, Directed Electronics, Inc., promises to the ORIGINAL PURCHASER to repair or replace (with a comparable reconditioned model) any electronic control module which proves to be defective in workmanship or material under normal use **FOR A CHARGE OF \$45.00**, SO LONG AS THE SYSTEM WAS SOLD, INSTALLED, AND SERVICED BY A PROFESSIONAL AUTO INSTALLER, AND REMAINS IN THE CAR IN WHICH THE SYSTEM WAS ORIGINALLY INSTALLED. If warranty service is necessary you must have a clear copy of your sales receipt containing all of the information shown on the following page.

This warranty contains the entire agreement relating to warranty and supersedes all previous and contemporaneous representations or understandings, whether written or oral. IN ANY EVENT, DEI IS NOT LIABLE FOR THE THEFT OF THE VEHICLE AND/OR ITS CONTENTS.

This warranty is void if the product has been damaged by accident, unreasonable use, neglect, improper service or other causes not arising out of defects in materials or construction. The unit and its components are water resistant, not waterproof; so the warranty is void if the product has been damaged as a result of prolonged water exposure or submersion. This warranty is nontransferable and does not apply to any unit that has been modified or used in a manner contrary to its intended purpose and does not cover batteries. The unit in question must be returned to the manufacturer, postage prepaid. This warranty does not cover labor costs for the removal, diagnosis, troubleshooting or reinstallation of the unit. For service on an out-of-warranty product a flat rate fee by model is charged. Contact your authorized dealer to obtain the service charge for your unit.

These systems are a deterrent against possible theft. Directed Electronics, Inc. is not offering a guarantee or insuring against the theft of the automobile or its contents and disclaims any liability for the theft of the vehicle and/or its contents. Directed

Electronics does not authorize any person to create for it any other obligation or liability in connection with this security system.

TO THE MAXIMUM EXTENT ALLOWED BY LAW, ANY AND ALL WARRANTIES ARE EXCLUDED BY THE MANUFACTURER AND EACH ENTITY PARTICIPATING IN THE STREAM OF COMMERCE THEREWITH. THIS EXCLUSION INCLUDES BUT IS NOT LIMITED TO THE EXCLUSION OF ANY AND ALL WARRANTY OF MERCHANTABILITY AND/OR ANY AND ALL WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE AND/OR ANY AND ALL WARRANTY OF NON-INFRINGEMENT OF PATENTS, IN THE UNITED STATES OF AMERICA AND/OR ABROAD. NEITHER THE MANUFACTURER OR ANY ENTITIES CONNECTED THEREWITH SHALL BE RESPONSIBLE OR LIABLE FOR ANY DAMAGES WHATSOEVER, INCLUDING BUT NOT LIMITED TO ANY CONSEQUENTIAL DAMAGES, INCIDENTAL DAMAGES, TOWING, REPAIR, REPLACEMENT, DAMAGES FOR LOSS OF TIME, LOSS OF EARNINGS, COMMERCIAL LOSS, LOSS OF ECONOMIC OPPORTUNITY AND THE LIKE. NOTWITHSTANDING THE ABOVE, MANUFACTURER DOES OFFER A LIMITED WARRANTY TO REPLACE OR REPAIR THE CONTROL MODULE AS DESCRIBED ABOVE. Some states do not allow limitations on how long an implied warranty will last or the exclusion or limitation of incidental or consequential damages. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

IMPORTANT NOTE:

This product warranty is automatically void if its date code or serial number is defaced, missing, or altered. This warranty will not be valid unless you have completed the warranty card and mailed it to Directed Electronics, Inc. within 10 days after purchase to the address listed on the warranty registration card.

Make sure you have all of the following information from your dealer:

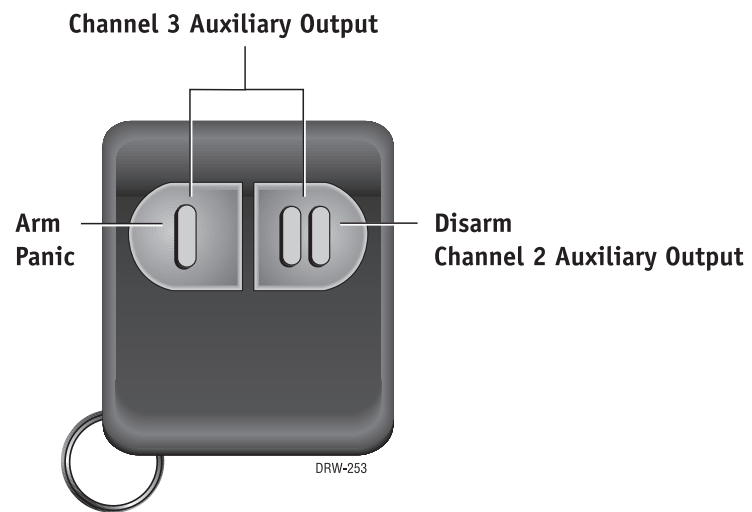
A clear copy of the sales receipt, showing the following:

- Date of purchase
- Your full name and address
- Authorized dealer's company name and address
- Type of system installed
- Year, make, model and color of the automobile
- Automobile license number
- Vehicle identification number
- All security options installed on automobile
- Installation receipts

[Table of Contents]

Limited Lifetime Consumer Warranty	i
What Is Included	3
Important Information	3
System Maintenance	3
Your Warranty	4
FCC/ID Notice	4
Transmitter Functions	5
Standard Configuration	5
Using Your System	6
Arming	6
Multi-Level Security Arming	7
Disarming	8
Disarming Without a Transmitter	8
Disabling and Re-enabling the Back-Up Battery Siren	9
Panic Mode	10
Valet® Mode	11
Nuisance Prevention Circuitry	11
Diagnostics	12
Arming Diagnostics	13
Disarming Diagnostics	13
Table of Zones	14
Code-Hopping™	14
Rapid Resume Logic	15
High Frequency	15
Power Saver Mode	16
Programming Options	17
Security & Convenience Expansions	18
Glossary Of Terms	19
Quick Reference Guide (Removable)	21

[Standard Configuration]



[What is Included]

- A control module
- A pair of two-button remote transmitters
- A Stinger® Doubleguard® dual-output shock sensor (on-board the control module)
- A back-up battery siren
- Two back-up battery siren keys
- The red status LED indicator light
- A push-button Valet® switch
- A mercury tilt switch
- Failsafe® Starter Kill (on-board the control module)

[Important Information]

Congratulations on the purchase of your state-of-the-art security system. This system has been designed to provide years of trouble-free operation. This guide should help you to get the most out of your system, so please take the time to review it thoroughly prior to using the system.

System Maintenance

The system requires no specific maintenance. Your remote is powered by a lithium battery that lasts approximately three years under normal use. The remotes are disposable, so after the battery

runs out, you can simply throw the transmitter away and replace it with a new one.

Your Warranty

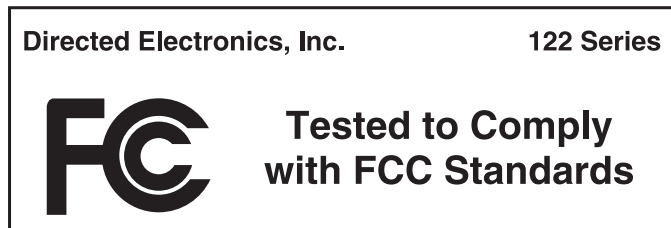
Your warranty card must be returned. If the warranty card is not returned, you do not have a warranty. It is also necessary to keep your receipt, which reflects that the product was installed by an authorized dealer. Make sure that you receive the warranty card from your dealer.

IMPORTANT! This unit and its components are water resistant, not waterproof; so the warranty is void if the product has been damaged as a result of prolonged water exposure or submersion.

FCC/ID Notice

This device complies with Part 15 of FCC rules. Operation is subject to the following conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

Caution: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this device.




[Transmitter Functions]


The receiver uses a computer-based Learn Routine to learn the transmitter buttons. This makes it possible to assign different transmitter buttons to different receiver functions. The transmitter initially comes programmed with Standard Configuration, but may also be customized by an authorized dealer. The buttons indicated in the instructions in this manual correspond to a Standard Configuration transmitter.

Standard Configuration

Button


The arming and panic functions are controlled by . To arm the system press this button for one second. To activate the panic function, press and hold this button for 1.5 seconds.

Button

The disarm function and an optional auxiliary convenience or expansion function are controlled by . To disarm the system press this button for one second. To activate the auxiliary function, press and hold this button for 1.5 seconds.

This auxiliary output controls _____.

and **Buttons**


Another optional auxiliary convenience or expansion function can be activated by pressing  and  simultaneously.

This auxiliary output controls _____.

[Using Your System]

The transmitter buttons indicated in this guide correspond to the standard transmitter configuration. Remember, this is not the only way your transmitter may be set up.

Arming

You can activate, or arm, the system by pressing  on your transmitter for one second. When the system arms, you will hear a short siren sound, or chirp, and see the lights flash once.

While the system is armed, the status LED will flash approximately once per second, showing that the system is actively protecting your vehicle. If you hear a second chirp after arming and see the status LED flashing in groups, refer to the Diagnostics section of this guide. This extra chirp is called Bypass Notification.



The system also can be programmed to arm itself automatically (called passive arming). If the system is programmed for passive arming, it will automatically arm 30 seconds after the ignition is turned off. Whenever the system is in its 30-second passive-arming countdown, the status LED will flash twice as fast as it does when the system is armed. At the 30-second point, the siren will chirp to indicate that the system is armed.



NOTE: Some faulty zones may prevent the system from passively arming. (See Arming Diagnostics and Table of Zones sections of this guide.) Additionally, each time a sensor is triggered during the passive arming countdown, the 30-second countdown starts over.




When armed, your vehicle is protected in the following ways:

- Light impacts will trigger the Warn Away® signal. When triggered, the siren will chirp and the parking lights will flash for a few seconds.
- Heavy impacts will trigger the system. The full trigger sequence is 30 or 60 seconds of constant siren and flashing parking lights.
- If the tilt switch is triggered or the ignition is turned on while the system is armed, the full trigger sequence will activate.
- The starter kill prevents the vehicle's starter from cranking.

Multi-Level Security Arming

Multi-Level Security is a feature that is only available when using a Standard Configuration transmitter (see Transmitter Functions section of this guide). Multi-Level Security Arming allows you to select which of the security system's inputs or sensors will be active and which will be bypassed at the time that the system is armed (see Table of Zones section of this guide). Pressing  again within five seconds of arming the security system will activate the Multi-Level Security Arming feature. Each time  is pressed again, a different security level is selected. The different security levels can be selected as follows:


- Pressing  one time: The siren chirps once. The system is armed.
- Pressing  a second time within five seconds: The siren chirps twice followed by a long chirp. Zone Two is now bypassed.

- Pressing  a third time within five seconds: The siren chirps three times followed by a long chirp. Zone Four is now bypassed.
- Pressing  a fourth time within five seconds: The siren chirps four times followed by a long chirp. Zones Two and Four are now bypassed.
- Pressing  a fifth time within five seconds: The siren chirps five times followed by a long chirp. All input zones, except the ignition (Zone 5), are now bypassed.

NOTE: For watercraft, we recommend turning off the shock sensor (Zone Two) whenever the craft is in the water to avoid false triggers.

NOTE: Multi-Level Security Arming only applies to a single arming cycle. Once the system is disarmed and then re-armed, all the zones will be active again.

Disarming

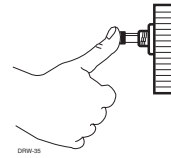
To disarm the system, press . You will hear two chirps, and the lights will flash twice. If the siren chirps either four or five times when disarming, refer to the Diagnostics section of this guide. This is called Tamper Alert.

Disarming Without a Transmitter

This feature allows you to disarm the system without the transmitter should it be lost, damaged or disabled. In order to disarm without a transmitter, you must have the ignition key and know where the Valet® switch is located. Be sure to check with the installer for the location of the Valet switch.



To disarm the security system, turn the ignition to the "on" position. Press the Valet switch the selected number of times (1-5

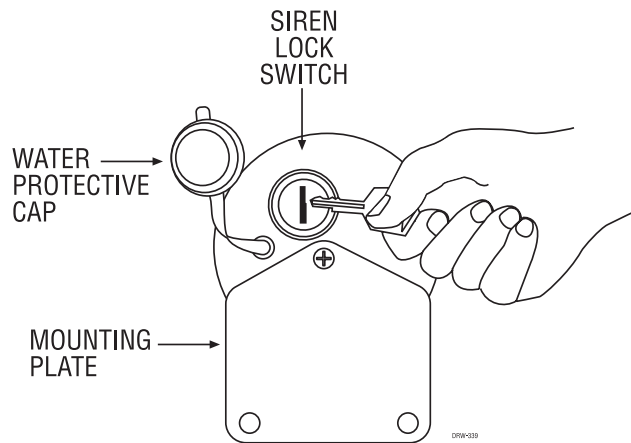


presses) within 15 seconds. The system should now disarm. If it does not, you may have waited too long to press the Valet switch; turn the ignition off and on and try again.

LOCATION OF VALET SWITCH

IMPORTANT! The unit can be programmed to respond to 1-5 pulses of the Valet® switch for the disarm function. Be sure to check with the installer for the desired programming.

Disabling and Re-Enabling the Back-Up Battery Siren



BACK VIEW OF SIREN

If the vehicle battery has been disconnected or is low on power, the back-up battery siren will sound.

To disable the back-up battery siren, follow these steps:

1. Locate the back-up battery siren.
2. Remove the water protective cap on the back side of the siren to expose the siren lock switch.
3. Insert the siren key into the siren lock switch and turn the key to the LEFT to disable the back-up battery siren.

**DISABLE
POSITION**



Once the vehicle battery has been reconnected or full charge is restored, the back-up battery siren can be re-enabled.

To re-enable the back-up battery siren, follow these steps:



1. Turn the siren key back to the RIGHT.
2. Replace the water protective cap on the back side of the siren.

**ENABLE
POSITION**



WARNING! If the siren lock switch key is turned to the enable position without the vehicle battery being connected, the back-up battery siren will sound.

Panic Mode

If you are threatened in or near your vehicle, you can attract attention by triggering the system with your transmitter! Just press  for 1.5 seconds, and you will enter Panic Mode. The siren will sound and the parking lights will flash for the programmed siren duration. To stop Panic Mode at any time, press  on the remote transmitter again.

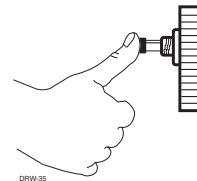
Valet® Mode

You can prevent your security system from automatically arming and triggering by using Valet® Mode. This is very useful when washing or servicing the vehicle. In Valet Mode, the security system will not arm, even with the remote transmitter, but all convenience functions will continue to operate normally.

To enter or exit Valet® Mode with the Valet switch:



1. Turn the ignition on.
2. Turn the ignition off.
3. Press and release the Valet switch within 10 seconds.



The status LED will light solidly if you are entering Valet Mode, and it will go out if you are exiting Valet Mode.

Nuisance Prevention® Circuitry

Your system has DEI's Nuisance Prevention® Circuitry (NPC®). It prevents annoying repetitive trigger sequences due to faulty sensors or environmental conditions such as thunder, jackhammers, airport noise, etc. Here's how it works:

The alarm triggers three times. Each time, the same shock sensor or switch is triggering the alarm. The three triggers are within 60 minutes of each other. NPC will interpret this pattern of triggers as false alarms. After the third trigger, NPC ignores, or bypasses,

that sensor or switch (along with any other sensors or switches sharing the same zone) for 60 minutes.

If the bypassed sensor tries to trigger the system while it is being bypassed, the 60-minute bypass period will start over. This ensures that a sensor that continually triggers will remain bypassed.

The mercury tilt switch, the optional luggage carrier/saddlebag protector, and the ignition switch (Zones 1, 3 and 5, see Table of Zones section) are protected differently by NPC. If any one of these zones is triggered for three, full 30-second cycles (one and one half minutes), the system will bypass the zone until the trigger ceases.

NOTE: Arming and disarming the system does not reset this function! The only ways to reset a bypassed zone are for it to not trigger for 60 minutes, or to turn on the ignition. If testing your system, it is important to remember that the NPC programming can cause zones to be bypassed and appear to stop working. If five chirps are heard when disarming, NPC has been engaged. If you wish to clear the NPC memory, turn the ignition key on.

[**Diagnostics**]

The microprocessor at the heart of your system is constantly monitoring all of the switches and sensors that are connected to it. It detects any faulty switches and sensors and prevents them from disabling the entire system. The microprocessor will also record and report any triggers that occurred during your absence.

Arming Diagnostics

If the system is armed while an input is active (e.g. sensor triggering) the unit will chirp once when arming and then one more time a few seconds later. This is called Bypass Notification.

The security system will ignore the input that was active when the system was armed, until the input goes away. Three seconds later the system will monitor that input normally. For example, if the tilt switch (motorcycles only) is at an unusual angle, and you try to arm the system, you may hear Bypass Notification chirps. Once the tilt switch is restored to its proper angle, the vehicle will be monitored normally.

NOTE: Bypass Notification will not occur if the chirps have been programmed OFF.

Disarming Diagnostics

Extra disarm chirps are the Tamper Alert. If four chirps are heard when disarming, the security system was triggered in your absence. If five chirps are heard, a zone was triggered so many times that Nuisance Prevention[®] Circuitry has bypassed that zone. In either case, the status LED will indicate which zone was involved (see Table of Zones section). The system will retain this information in its memory, and continue to chirp four or five times each time it is disarmed, until the next time the ignition key is turned on.

Table of Zones


The zone number is the number of LED flashes used by the security system to identify a specific input. The standard input assignments are listed in the following Table of Zones, along with spaces to write in any optional sensors or switches you have had installed.

ZONE (Number of LED Flashes)	DESCRIPTION	DEALER-INSTALLED OPTIONS
1	Instant trigger - used for the mercury tilt switch	
2	Impact detected by the Double Guard [®] Shock Sensor	
3	Instant trigger - optional closed loop trigger for saddlebags or luggage carrier	
4	Optional sensors	
5	Ignition trigger	

If the Warn Away[®] response is triggered, the LED will not report it.

[Code-Hopping[®]]

The receiver and transmitters each use a mathematical formula called an algorithm to change their code each time the transmitter is used. This technology has been developed to increase the security of the unit. The control unit knows what the next codes should be. This helps to keep the transmitter "in sync" with the control unit even if you use the remote control out of range of the vehicle.

However, if the transmitter buttons have been pressed many times out of range of the vehicle, or the battery has been removed, it may get out of sync with the control unit and fail to operate the system. To re-sync the remote control simply press  on the transmitter several times within range of the receiver. The alarm will automatically re-sync and respond to the transmitters normally.

[Rapid Resume Logic]

This DEI® system will store its current state to non-volatile memory. If power is lost and then reconnected the system will recall the stored state from memory. This means if the unit is in Valet® Mode and the battery is disconnected for any reason, such as for a service visit, when the battery is reconnected the unit will still be in Valet Mode. This applies to all states of the system including arm, disarm, and Valet Mode.

[High Frequency]

Your system transmits and receives at 434 MHz. This provides a cleaner spectrum with less interference and a more stable signal. Enjoy a phenomenal increase in range – even in areas with high radio interference.

[Power Saver Mode]

Your system will automatically enter Power Saver Mode while armed or in Valet Mode, after a period of time in which no operation has been performed. This lowers the current draw on the vehicle's battery and prevents the system from draining the battery. Power Saver Mode takes over under the following conditions:

- Power Saver when the system is armed: After the system has been armed for 24 hours, the LED will flash at half its normal rate, decreasing the system's current draw.
- Power Saver in Valet Mode: When the system enters Valet Mode the LED illuminates steadily. If the vehicle is not used (ignition is not turned on) for a period of one hour while the system is in Valet Mode, the LED will shut off. If the system remains in Valet Mode, the LED will come back on the next time the ignition is turned on and then back off.

[Programming Options]

Programming options control what your system does during normal operation, and require few or no additional parts. However, some programming options may require additional installation labor.

The following is a list of the program settings, with the factory settings in **Bold**:

- **Active** arming (only with the transmitter) or passive arming (automatic arming 30 seconds after the ignition is turned off).
- Arming/disarming confirmation siren chirps **on** or off.
- Siren duration can be programmed for either **30** or 60 seconds.
- Siren output can be programmed for **constant** or pulsed output when the system is triggered.
- Valet pulse count: The number of presses of the Valet® switch required to disarm the security system can be programmed from 1-5 presses. The default setting is **one** press.

[Security & Convenience Expansions]

Here we have listed only some of the many expansion options available. Please contact your dealer for a complete explanation of all the options available to you.

Backup Battery: The 520T keeps the system armed, triggers the alarm and keeps the starter kill active if main battery power is disconnected.

Headlight and Parking Light Automation: The 545T Nite-Lite® will automatically turn on your parking and headlights when it gets dark. A transmitter function can also be used to turn on your parking and headlights for a programmed time.

820M Valet® Car★Com™: The 820M Valet® Car★Com™ is a one-way pager system that can be added to any compatible DEI security system. Using the 820M, many of the security and convenience features of your DEI security system can be operated from any touch tone telephone or online.

[Glossary of Terms]

Back-Up Battery Siren: Noise generating device responsible for generating the "chirps" you hear, as well as the sound you hear when the alarm is triggered.

Control Unit: The "brain" of your system. It houses the micro-processor which monitors and controls all of the system's functions.

Failsafe® Starter Kill: An automatic switch controlled by the security system which prevents the starter from cranking whenever the system is armed. The starter is never prevented from cranking when the system is disarmed, in Valet® mode, or should the starter kill switch itself fail.

Input: A physical connection to the system. An input can be provided by a sensor, pinswitch or to existing systems on the vehicle, such as the ignition.

LED: Red light mounted somewhere in the vehicle. It is used to indicate the status of your system. It is also used to report triggers and faults in the system or sensors.

Shock Sensor: This system is packaged with a Doubleguard® Shock Sensor. This sensor is on-board the control module and is designed to detect impacts to the vehicle.

Transmitter: Hand-held, remote control which operates the various functions of your system.

Trigger or Triggered Sequence: This is what happens when the alarm "goes off" or "trips". The triggered response of your system consists of 30 or 60 seconds of siren sounding and lights flashing.

Valet® Switch: A small push-button switch mounted on the vehicle that is used to override the alarm when a transmitter is lost or damaged, or to enter or exit Valet® mode.


Warn Away® Response: Lighter impacts will generate the Warn Away response, which consists of several seconds of siren chirps and light flashes.

Zone: A zone is a separate input that the alarm can recognize as unique. Each input to the system is connected to a particular zone. Two or more inputs often share the same zone.


Cut along dotted line and fold for a quick and easy reference to keep in your purse or wallet.

QUICK REFERENCE GUIDE:

To arm using your remote

- You can activate, or arm, the system by pressing  on your transmitter for one second. When the system arms, you will hear a short siren sound, or chirp, and see the lights flash once.

To disarm using your remote

- To disarm the system, press . You will hear two chirps, and the parking lights will flash twice. If the siren chirps either four or five times when disarming, see Diagnostics section. This is called Tamper Alert.

Disarming without a transmitter

- Turn on the ignition. Press the Valet® switch the programmed number of times within 15 seconds. The system should now disarm. If it does not, you may have waited too long. Turn the ignition off and on and try again.

To disable the back-up battery siren

- Locate the back-up battery siren. Remove the water protective cap on the back side of the siren to expose the siren lock switch. Insert the siren key into the siren lock switch and turn the key to the LEFT to disable the back-up battery siren.

To enable the back-up battery siren

- Turn the siren key back to the RIGHT. Replace the water protective cap on the back side of the siren. **WARNING!** If the siren lock switch key is turned to the enable position without the vehicle battery being connected, the back-up battery siren will sound.

To enter or exit Valet® Mode

- Turn ignition to "run" position, then turn to "off" position. Press and release the Valet® switch within 10 seconds. The status LED will light solid if you are entering Valet® Mode, and it will go out if you are exiting Valet® Mode.

To enter or exit Panic Mode

- Press and hold  down for 1.5 seconds.

Important!

The unit and its components are water resistant, not waterproof; so the warranty is void if the product has been damaged as a result of prolonged water exposure or submersion.

Location of Valet switch _____

Number of Valet switch pulses for disarming _____

The company behind this system is Directed Electronics, Inc.

Since its inception, DEI® has had one purpose, to provide consumers with the finest vehicle security and car stereo products and accessories available. The recipient of nearly 100 patents and Innovations Awards in the field of advanced electronic technology, DEI is ISO 9001 registered.

Quality Directed Electronics products are sold and serviced throughout North America and around the world.

Call **(800) 274-0200** for more information about our products and services.



DEI is an ISO 9001 registered company.

DEI is committed to delivering world class quality products and services that excite and delight our customers.

Directed[®]
ELECTRONICS, INC.

Vista, CA 92083

www.directed.com

© 2001 Directed Electronics, Inc. - All rights reserved

G122T 3/01

Rev. B 1.0