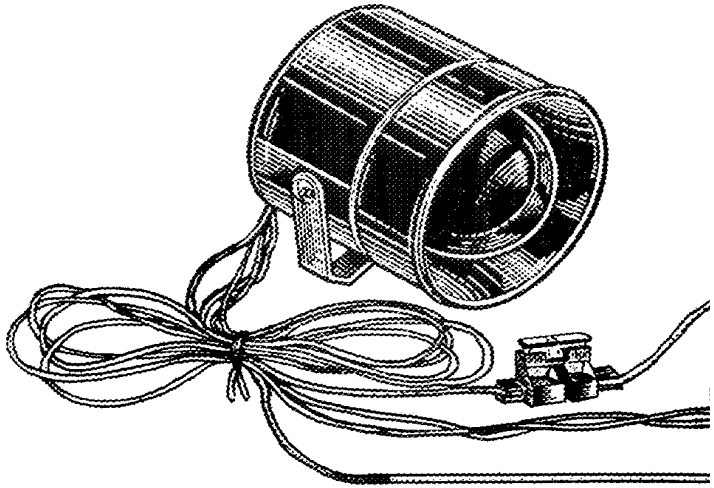
FIRST DEFENSE®

VEHICLE SECURITY SYSTEM

Model 20630 / 20930

Installation Manual

For Use On Vehicles With 12 Volt (Negative Ground) Electrical Systems



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Quality Assured ISO 9001 Manufacturer

MADE IN THE U.S.A.

Instructions for
First Defense® Alarm

Congratulations on your purchase of our First Defense®, the first car alarm designed to protect both **You** and **Your Car**.

First Defense® Protects Your Car:

Built-in 8 stage ceramic crystal shock sensor allows the user to adjust from feather light to rock hard sensitivity, using the remote control.

If your car is lightly bumped, First Defense sounds a 3-second pulse to ward off potential thieves.

If someone hits the car or climbs through a broken window, the full alarm is triggerd.

Starter Kill prevents your vehicle from being started when the alarm is armed. Many insurance companies provide a discount to insurers whose vehilce is equipped with an ignition or starter kill. Check with your insurance company.

The current sensor activates the alarm immediately when a door, trunk or hood is opened (if these openings trigger a light) while First Defense is armed.

Choose your own unique piercing 108dB siren sound from 8 different possiblilities.

First Defense® Protects You:

Panic Alarm lets you activate the siren and flash your vehicle's lights to call for help or scare off would be attackers.

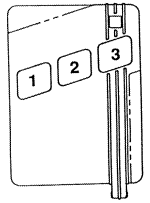
Remote Light control lets you remotely turn on your vehicle's lights to light your way for 30 seconds.

Car Locator lets you quickly locate your car in crowded malls, stadiums or other large parking lots.

Anti-Carjacking sounds the alarm after you are a safe distance away from the carjacker.

Transmitter

Your First Defense® Transmitter Operates As Follows:



The light on the transmitter will turn Green when button #1 is pressed, Red with button #2 and Yellow with button #3 when it is transmitting.

Press once for 1 second: Arm alarm / Siren chirps once, lights flash once

Press again for 1 second: Disarm alarm / Siren chirps twice, lights flash twice

Note: if alarm has been triggered, you will hear 4 chirps during disarm)

Button Two:

Press for 1 second: Carfinder® (siren sounds for 2 seconds and lights come on for 2 seconds)

Hold down for 3-4 seconds: Panic Alarm (flashing lights and siren) for 45 seconds.

Button Three:

Press once (1 second): Turn headlights on for 30 seconds

The First Defense® is fully user programmable from the remote transmitter for choosing shock sensitivity and your choice of 8 different siren sounds.

Before You Get Started

Contents:

1 First Defense® siren module

1 3-Button transmitter (comes with long-life lithium battery

2 Blue Scotch-Lock wire connectors

4 Cable ties (4" long) for wires

1 Spare blue 15 amp fuse

1 Ring-terminal for ground connection

2 Screws & lock washers for mounting bracket

2 "Warning: Protected by DesignTech" window decals

Wire Functions:

RED	+12 Volts ("+" positive)
BLACK	Ground ("-" negative)
YELLOW	Headlights Control
BLUE	Current Sense Disable - Optional See Step #3
ORANGE	Ignition Sense (Only necessary if Current Sense is disabled)
VIOLET	Starter Kill
BLACK W/ CLEAR END	Coaxial Antenna Wire

Tools Needed:

- Drill
- Pliers
- Phillips Head Screwdriver
- Small Adjustable (crescent) Wrench

Installation Instructions

WARNING: Never install this product with the engine running and be certain to keep the alarm's wires away from moving parts.

Step 1 - Mounting the Unit and Connecting the Ground

Mount the Siren under the hood as near to the front of the vehicle as possible. It must be securely screwed into the metal frame of the vehicle to pick up the shock vibrations during an intrusion or forced entry. Secure the bracket tightly with one of the two self-tapping screws provided. Use the other screw to run through the eyelet of the ground terminal for the BLACK wire and then secure the other side of the bracket to the vehicle. This will allow you to ground the unit where you are mounting it. ALWAYS MOUNT THE SIREN SO THE WIRES ARE HANGING DOWNWARD FROM THE CASE - this will prevent any water buildup in the siren case.

Be sure to keep the siren and wires away from any moving parts. For best results, mount the siren in the best location that allows the sounds to emanate from the siren with the least amount of obstruction.

Warning: When working around the car battery, never allow any metal tools to short across the two battery terminals or from +12 Volts to ground!

Step 2 - Red +12 Volt Wire

Connect the RED wire with its in-line fuse holder and 15 amp fuse to the +12 volt ("+") side of the battery terminal, using our eyelet connecter. To do so, simply unscrew the battery terminal connector nut and then slip the eyelet over the bolt and retighten the nut.

Step 3 - Blue Current Sense Disable Wire

This optional wire will shut off the current sensing feature of this alarm. This needs to be done if the vehicle's fan motor stays on after the engine has been shut off on a hot day. Addtionally, some newer vehicles will have electronic modules that come on and off periodically after the engine has shut down. If the alarm periodically goes off for no explination after your car was recently parked, then you may need to connect this wire to shut off the current sense feature.

To disable the current sense feature, connect the Blue wire to a constant +12 volt source. To enable ignition sense, see Step 5.

Step 4-Yellow Lights Wire

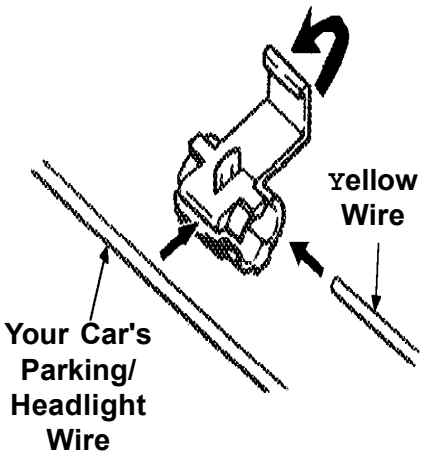
This wire can power up either the headlights or the parking lights of your vehicle. You cannot connect both. Connect the Yellow wire to the light wire that shows +12 volts whenever the lights are turned on. This output is a +12 volt relay output. This output will flash the lights for panic alarm & car finder features, plus let you turn on your lights to light your way at night.

We recommend that you connect the YELLOW wire to the parking light wire that measures +12 volts when the parking lights are on. This will give a visual indication from both the front and the rear of the vehicle.

How To Use The Scotch-Lock Connector

The diagram below shows how to use the blue Scotch-Lock wire connectors to tap into the desired wires. This example is for the parking light connection.

1) Slip the connector over the wire you want to attach to.
2) Push the First Defense® alarm's wire (un-stripped) as far as it will go into the open end of the connector.
3) Use pliers to press the metal blade into the wires.
4) Close the plastic cover over until it clicks.



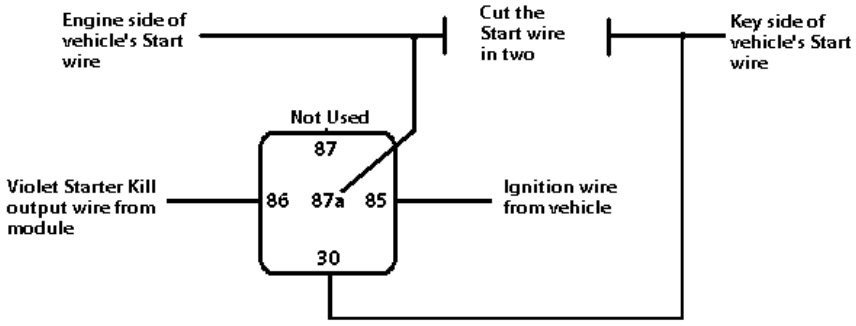
Step 5-Orange Ignition Sense Wire

This wire will is only needed if you have connected the Blue current sense disable wire in Step 3. This wire will sense the ignition of the vehilce being turned on and therefore sound the alarm should the ignition be turned on while the alarm is armed. Connect this wire to a wire that measures +12 volts whenever the ignition is turned on.

Step 5 - Violet Starter Kill Wire

The VIOLET wire is a transistor ground output that is active whenever the system has been armed by the transmitter. This output is used to engage a starter kill relay (optional and **not** included with this alarm) to prevent the vehicle from starting whenever the alarm system is armed. Follow the wiring diagram and instructions below if desired:

Connect the VIOLET wire to pin # 86 of a standard "Bosch" style SPDT (Single Pole Double Throw) 30 Amp relay. Connect pin # 85 to a wire that provides +12 volts whenever the ignition key is in the "Run" position. You may find this wire either behind the key area or under the hood at the ignition coil/module. Locate the vehicle's starter wire coming off of the ignition key area or under the hood before it gets to the starter solenoid. This will be a wire that provides +12 volts only while the key is in the "Start" position. Cut this wire in half. Connect one side of the cut starter wire to pin # 30 of the relay. Connect the other side of the cut starter wire to pin # 87a (the middle pin) of the relay. Tie up the relay and wrap any exposed wires with electrical tape to protect them from moisture and the elements. Make sure that all wires are out of the way of moving or hot parts.



Step 6 - Coaxial Antenna Wire

Route the Antenna Wire (thick black with the clear plastic end) to the front of the grille of the car. The last clear 8 inch length is the actual antenna and must be exposed and not positioned behind metal. This will allow for maximum transmitter range. Secure the clear end, using 2 cable ties, to the grille. The more exposed the antenna, the better the range. No antenna cable should remain coiled up - this will greatly decrease range.

Step 7 - Quick Operational Test

At this point your alarm should be working. Before going on, test it by pressing the middle (red) button for 1 second to get the CarFinder™ feature. If this feature is working, your alarm should be totally functional. If you get no response from this test, go on to step 8. If the quick operational test works, go straight to step 9.

Step 8 - Teaching Transmitters/Sensors

Your Smart Alarm® comes with the transmitter pre-coded to the receiver. If your alarm does not respond to the transmitter or you are adding the optional wireless sensor, then do the following:

1) Pull out the 15 amp fuse for a few seconds, then replace it. The lights will flash 4 times and the siren will chirp once confirming the unit is in code learning mode.

2) Within 5 seconds of the first step, press button #1 (green) on your transmitter until the lights flash once (usually hold the button for about 5 seconds), signifying that it has learned the code. If you have additional transmitters, teach the receiver these by pressing the second transmitter's button #1 (green) within 5 seconds of the receiver learning the first transmitter code. (If you are adding a wireless sensor, seperate the magnet from the switch until the receiver chirps once indicating that it has learned the code of the sensor.)

3) After programming the last transmitter/sensor, wait 5 seconds for the 4 exit light flashes. Your alarm is now ready to use! Follow these steps again to relearn new transmitters, if necessary, in the future.

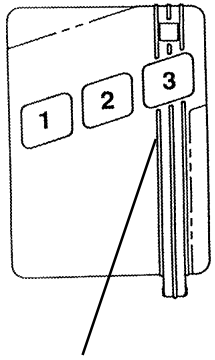
Step 9 - Adjusting Shock Sensitivity

You can program the shock sensitivity level of your Smart Alarm® to maximize sensitivity while reducing false alarms.

TO ENTER PROGRAMMING MODE:

1) Press button #3 for 10 seconds and then let go of the button only after you have seen the confirmation light flashes or you will not enter the programming mode! Once you have seen the confirmation light flashes, you are ready to program your shock sensitivity.

2) By pressing button #1(GREEN) button again you can scroll through the different levels of shock. There are 8 levels of shock and 8 corresponding tones. The higher the number of flashes, the more sensitive the alarm is to shock. Remember, you are simulating the shock which the car would feel if someone were tampering with your vehicle). Be very carful when using level 7 or 8 as these are the most sensitve levels of shock protection and this may cause your unit to false alarm due to loud noises or minor vibrations produced by large trucks passing by or heavy machinery or heavy rain and thunder.



Press button 3 for a 10 seconds, to enter programming mode

3) When you have settled on a proper sensitivity level, simply press button #2 (RED) to **exit** programming mode and save this sensitivity level. If you don't press any buttons for 5 seconds, you will automatically exit the programming mode with the setting of the last number of flashes.

Step 10 - Choosing A Siren Tone

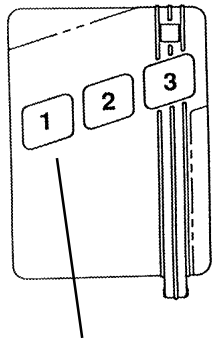
You can personalize your alarm's sound by selecting one of eight different siren sounds.

TO ENTER PROGRAMMING MODE:

1) Press button #1 for 10 seconds and then let go of the button only after you have heard the siren sound.

2) By pressing the GREEN button #1 in the siren sound selection mode, you can scroll through the various siren sounds until you find one you like (you will hear 2 seconds of the selected siren sound each time you scroll to a sound).

3) When you have settled on a favorite sound, simply press button #2 (RED) to **exit** programming mode and save the last sound played. If you don't press any buttons for 5 seconds, you will automatically exit the programming mode.



Press button 1 for a 10 seconds, to enter programming mode

Step 11 - Trying Out the Alarm

Now everything is complete and it is time to try out the system.

- Press button #3 (yellow) and the **headlights** should come on. They will turn off in 30 seconds -- or you can turn them off by pressing the YELLOW button again.
- Press button #2 (red) for 1-2 seconds to get the **CarFinder®** feature. The siren will sound for 1-2 seconds and the lights will flash.
- Press and hold button #2 (red) for 3 seconds to get the **Panic** mode. The alarm will sound and the lights will flash for 30 seconds. You can turn off the alarm by pressing the RED button again.
- Press button #1 (green) for 1 second. You will hear one chirp signifying that the alarm is now **armed**. Open the car door and the current draw caused by the interior dome light coming on will set off the car alarm. Hold down button #1 (green) for 2 seconds to turn off the alarm. Push the left button again to rearm the system. This time, hit the vehicle with your fist to simulate a thief breaking into your car - and test out the shock sensor mode. Again, turn off the alarm by pressing button #1 (GREEN) for 2 seconds.
- Please note that any radio frequency type product is subject to many conditions including interference from other products. "Line-of-sight" range should be up to 400 feet in front of the vehicle, but will be less from different angles of the vehicle and under other conditions (such as being inside a building or other structure, or being in a high radio interference area).
- The shock sensor and warn away have a zone bypass. If the shock is triggered 4 times within a 12 hour period, then the shock sensor zone will be bypassed for 12 hours. (Note: Wireless sensors do not have a zone bypass).

Step 12 - Using with a Wireless Sensor

Your unit is capable of working with our Wireless Sensor, model 20615, not included. The Wireless Sensor is a small device that will monitor a door like those on the back of pickup truck, caps, Tonue cover or those on a tool box bed. It allows the user to have multiple alarm trigger sources without the extra expense and hassel of hardwiring them to the alarm module.

The First Defense alarm will work with up to any combination of hand held transmitters and senors up to eight in all. So, for example if you have two hand held transmitters that you are using with the alarm, then the maximum number of sensors that can be added are six for a total of eight. The unit is powered by a lithium battery that is included and the battery has a lifespan of 1 - 3 years.

The sensor consists of three pieces. The larger piece is the actual sensor and built-in transmitter that transmits its status to the alarm module. It is hardwired to a smaller piece that is a magnetic reed switch. The other smaller piece is a magnet. The two smaller pieces must be mounted next to each other using the self adhesive strips that come with the sensor or small screws. The hardwired piece needs to be mounted on a stationary portion or door frame, right next to the other smaller piece which needs to be mounted on the piece that swings opern (i.e. door). When the two are next to each other the magnet piece will hold the reed switch piece closed. When the magnet piece moves away from the reed switch piece, then the reed switch will open sending a signal to the transmitter piece through the wires contected to it and the larger transmitter piece will transmit a signal to the alarm that will cause it to trigger.

The alarm will respond to a wireless sensor in one of three different ways depending on whether the alarm is armed or disarmed and whether the wireless sensor battery is low or not:

Unit is unarmed and the wireless sensor is triggered, then the alarm module will flash the lights one time.

Unit is unarmed and the wireless sensor is triggered and the battery is low, then the alarm will chirp the siren 4 times indicating that the battery is low and needs to be replaced.

The alarm is armed and the wireless sensor is triggered, then the alarm will fully activate sound its siren and flashing the lights indicating an intrusion or break in attempt.
Sensors must be coded to the alarm module just like a transmitter using the Step 8 of the instructions on page 9.

Trouble Shooting

Nothing Happens At All: Be sure that the fuse is securely in the Red wire coming from the siren body and that power is reaching the unit (test by using a voltage tester on the Red wire to find +12 Volts). Also, review transmitter learning. Refer to step 8.

The Fuse Blows Every Time: Disconnect the Yellow wire and try again. If the fuse doesn't blow with the Yellow wire disconnected, then the only problem is that you are not on the low beam wire coming off the back of the head lamp. Refer to step 4.

If The Headlights Don't Work: Using a Voltmeter or test light, make sure the Yellow wire is Scotch-Locked to the low-beam headlight wire that is "hot" (+12 volts) when the low beams are on. Refer to step 4.

General Maintenance

This product should provide years of service.

Remember to replace the batteries in the transmitter every 4-5 years. The battery type is CR2032 lithium. Most camera stores carry these or they can be ordered from DesignTech.

For any questions concerning usage or installation of this product, please call 1-800-337-4468.

Part_____	Part #	Cost__
Additional batteries for transmitter (set of 2)	20059	$7.95
Extra 3 Button Transmitter	00061	$49.95

Please note that prices are in U.S. dollars and include shipping and handling.

Accessories

DesignTech's Universal Remote Control Garage Door Opener system makes a great add-on to the Smart Alarm®. The Garage Door Opener can learn your transmitter's code, allowing you to open your garage using the Smart Alarm® remote which is already on your key chain. For greater convenience you can add up to 4 remote transmitters so all the drivers in your family can have a long-range, convenient remote control garage door opener.

This is a perfect add-on for those who:

- Can't find a replacement for their old garage door opener remote
- Want longer range out of their remote (this unit has up to 300 ft. range).
- Want to get rid of that clunky old remote control and replace it with a miniature, lightweight remote transmitter.
- Need more transmitters than came with their original garage door opener system.

Note that the Universal Remote Control Garage Door Opener does not displace your existing garage door controller. Rather, this system simply piggybacks your existing system, enabling you to use both your old and your new transmitters to control your garage. Please call your local DesignTech sales outlet or call DesignTech directly at (703) 866-2000 for more information on the product or for ordering.

Remote Control Garage Door Opener Module	Model 30021	$49.95
Extra one button remote transmitter	Model 20051	$44.95
Wireless Sensor	Model 20615	$49.95

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two 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.
FCC ID: ELGDIY2 & ELGWAS
DOC: _____
User is cautioned that changes or modifications not expressly approved by DesignTech could void the user's authority to operate this equipment.
Covered under US Patent Number: 5,783,988

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MADE IN THE U.S.A.

LIMITED WARRANTY

DesignTech International, Inc. Warrants to the original consumer/purchaser that this product shall be free of defects in material and workmanship under normal use and circumstances for a period of **two** (2) years from the date of original purchase for use. When the original consumer/purchaser returns the product to DesignTech International Inc., 7955 Cameron Brown Court, Springfield, Virginia 22153, USA within the warranty period, and if the product is defective DesignTech International, Inc. will at its option repair or replace such.

This warranty shall constitute the sole liability of DesignTech International, Inc. concerning the product. DesignTech International, Inc. expressly disclaims all other warranties INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF MERCHANT ABILITY AND FITNESS FOR A PARTICULAR PURPOSE. NO PERSON, FIRM , OR CORPORATION IS AUTHORIZED TO ASSUME FOR DESIGNTECH INTERNATIONAL, INC. ANY OTHER LIABILITY IN CONNECTION WITH THE SALE AND USE OF THE PRODUCT. DesignTech International, Inc. and agents and distributors will bear no liability whatsoever for incidental or consequential damages or charges of any kind.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above disclaimer regarding incidental or consequential damages may not apply to you.

This warranty shall be effective only if the registration card is fully completed and mailed with proof of purchase to: DesignTech International, Inc., 7955 Cameron Brown Court, Springfield, Virginia 22153, USA within ten (10) days after date of purchase.

This warranty is void if the product or has been damaged or tampered with or if the product or any such parts have been opened. In all cases of damage during shipment, a claim must be filed with the shipping carrier and not with DesignTech International, Inc.

This warranty gives you specific legal rights; you may also have other rights which vary from state to state.

OUT OF WARRANTY REPAIRS

DesignTech International, Inc. will at its option either (1) replace this product with a functionally similar (but not necessarily visually identical) refurbished product or (2) repair the original product and return it to the original consumer/purchaser C.O.D. covering all reasonable repair or replacement charges if the product is returned prepaid to DesignTech International, Inc., 7955 Cameron Brown Court, Springfield, VIRGINIA 22153, USA, after the two year warranty period has expired.

This registration card must be returned within ten (10) days of purchase.

NAME_____User's Age_____

ADDRESS_____

_____

City State Zip

PLACE OF PURCHASE_____DATE OF PURCHASE_____

Product Purchased: Name **SMART ALARM® #20630** Location

Purchased for : _____YOURSELF _____SPOUSE

_____OTHER FAMILY MEMBER _____FRIEND

Who installed this alarm?

Where did you learn about this product?_____

Vehicle Make:_____Vehicle Model:_____Year:_____

_____Please send me **FREE** information on other innovative DesignTech products.