SECURITY & CONVENIENCE COMPONENTS
530T WINDOW AUTOMATION SYSTEM
ANOTHER AUTO AUTOMATION™ PRODUCT FROM DEI

INSTALLATION GUIDE

The 530T automatically rolls up power windows when the security system is armed. Using an auxiliary channel, the 530T can roll the windows down completely, or just roll them down a inch or so for ventilation. Please refer to the owner's guide (on outside back cover) for a detailed description of proper operation.

The 530T also provides "one-touch" automated window control from the factory switches. Full window travel can be achieved by simply pressing the window switch momentarily. To stop the window, simply tap the switch again in either direction.

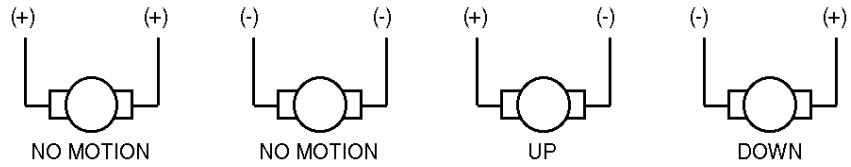
IMPORTANT: Any vehicle with a Type B resting-at-ignition switch system (for example, most BMW's, Mercedes-Benz, and 1992 Chevrolet Corvettes) will require use of two 453T voltage inverters (not included, see P. 5).

When mounting the module, always locate it as close to the switches as possible. **DO NOT** mount the module in the door, as water damage **WILL** result. Remember that, if automated operation of the passenger window from the passenger switch is desired, you must interface with the passenger side wires between the passenger switch and the motor (often inside the passenger door). This may involve extending some of the wires. Use 14AWG or larger when extending.

NOTE: Remember that the safety system inside the 530T monitors the AC "noise" present on the wires, which is created by the motion of the motor. If the 530T does not "see" this noise, it will operate for only 1/2 a second or so. **The 530T will not drive a relay, and bench tests are ineffective if there is no moving motor present on the outputs.** If the vehicle is equipped with any type of factory automatic full-travel or one-touch window system, ensure that you interface with leads connected directly to the motor, and not to any relay or control module.

Before wiring the 530T, it is important that you understand how a window switch works.

A 12VDC motor must have (+)12V on one of its leads and (-) ground on the other in order for it to operate. Most window switches are connected directly to the window motor with two wires. The switch, while at rest, may connect both these wires to (-) ground, or both to (+) 12V ignition, or leave both wires open, but all three types have one thing in common: When activated, the switch will be sending (+)12V on one wire and (-) ground on the other.



Which wire gets (+) 12V and which wire gets (-) ground depends on which direction you wish the motor to travel. The switch must be able to reverse these connections. Both door lock motors and window motors work on this principle, called **reversing polarity**. (Many vehicles reverse polarity to the door lock motors through relays, but rarely are relays used in window circuits.) The three most common reversing polarity systems are described on the next pages. The Troubleshooting section lists some vehicles with unusual switch control systems.

The WAS installs between the switches and the motors. It becomes the window master controller, as it were. The custom IC chip inside the WAS monitors the factory window switches, the security system's arm/disarm state, and an auxiliary output of the security system. It also monitors the state of the motors, and will shut them off if anything impedes their motion. The factory switches no longer have to handle the current drawn by the motors; the WAS internal relays now do that instead.

530T HARNESS INFORMATION

HARNESS 1 (HEAVY-GAUGE WIRES)

H1/1	**VIOLET**	GROUND PATH, MOTOR #1
H1/2	**GREEN**	DOWN, MOTOR #1
H1/3	**BLUE**	UP, MOTOR #1
H1/4	**RED**	(+) 12V CONSTANT, 20A FUSED
H1/5	**BLACK**	(-) CHASSIS GROUND
H1/6	**VIOLET/BLACK**	GROUND PATH, MOTOR #2
H1/7	**GREEN/BLACK**	DOWN, MOTOR #2
H1/8	**BLUE/BLACK**	UP, MOTOR #2

HARNESS 2 (LIGHT-GAUGE WIRES)

H2/1	**BROWN**	UP, SWITCH #1
H2/2	**WHITE**	DOWN, SWITCH #1
H2/3	**RED/WHITE**	(-) AUXILIARY INPUT
H2/4	**ORANGE**	(-) GROUND-WHEN-ARMED
H2/5	**GRAY**	(-) OUTPUT DURING ACTIVATION
H2/6	**BROWN/BLACK**	UP, SWITCH #2
H2/7	**WHITE/BLACK**	DOWN, SWITCH #2

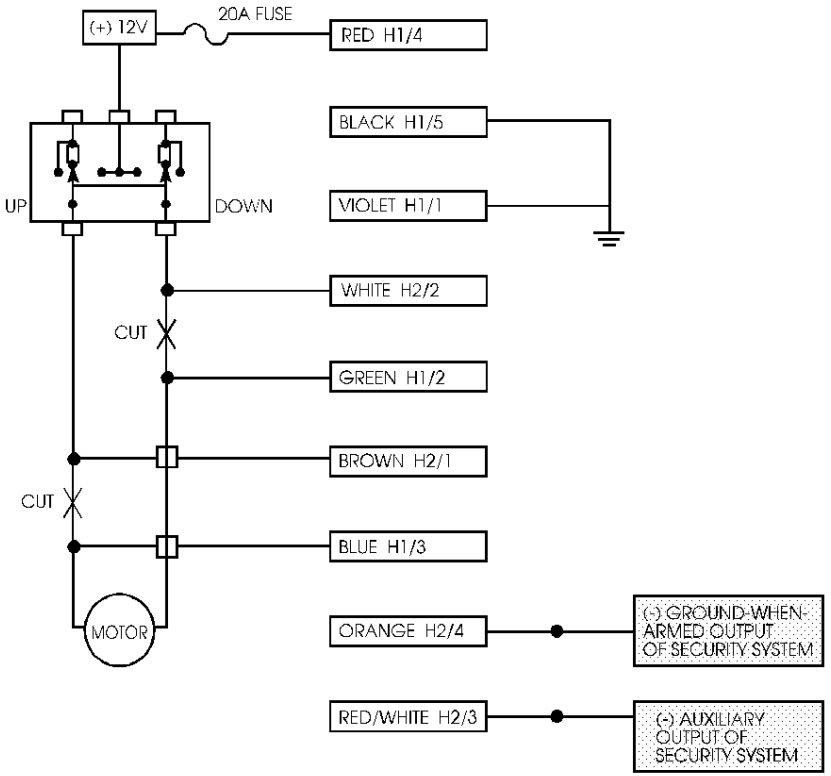
WIRING

For the sake of simplicity, we only describe the switch and motor wiring for Side 1. Side 2 is interfaced identically, but Side 2 wires have black stripes for ease of identification.

For the purpose of wiring the 530T, there are two types of window switches:

TYPE A

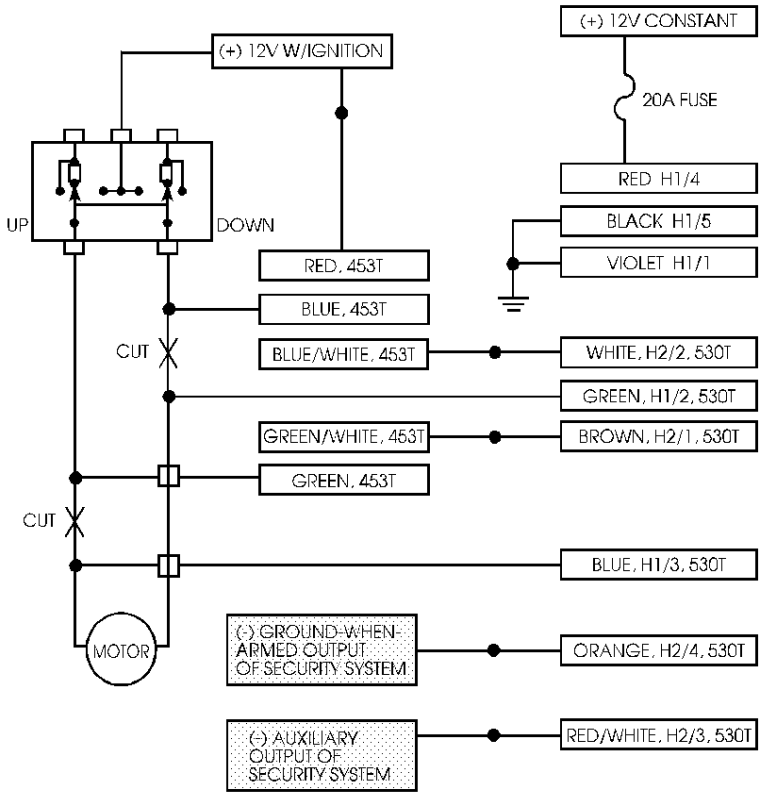
The motor leads of Type A switches do not change state when the ignition key is turned on. Type A switch leads either rest at ground or rest open (neither grounded or at (+)12V). Resting open systems are referred to as Type C when wiring the 529T Power Window Module, but are not differentiated when wiring the 530T Window Automation System.



TYPE B

Type B switch leads rest at ground when the ignition key is off, but rest at (+)12V with the ignition key on. (In other words, they rest at ignition.)

IMPORTANT: Type B systems require two 453T Voltage Inverters (not included) or four relays (P/N 525T or 610T). These must invert the polarity of the factory window switch outputs. The 453Ts make the installation much simpler and are strongly recommended.



TROUBLESHOOTING

The windows do not move, and the 530T's fuse blows.

The switch side and motor side connections may be reversed. Always make these determinations while using the master switch (if there is one), and cut both wires before testing if any uncertainty exists.

The window moves an inch or so, and stops.

Does the window in question have automated full-travel motion? In other words, if you tap the switch in the down direction and immediately release it, does the window roll completely down? If so, go directly to the motor and trace the motor's leads back. You will probably find a module in the door that controls the automation. You must connect to the leads between the motor and the module, not between the module and the switch.

One window works fine, but the other window doesn't move at all.

Reverse Side 1 and Side 2. Does the problem change sides? If so, check the 530T. If not, double-check the switch side/motor side identification on the side affected.

How can I control a sunroof?

We recommend using a 529T instead of a 530T.

I can't find any wires on the switch that seem to work.

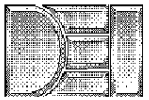
Some new vehicles are using unusual control systems. On the following vehicles, 530T installation usually involves running wires into each door.

1991/1992 Nissan Maxima, Pathfinder (Maxima uses two different systems, only one is a problem; Pathfinder has relays below glove box).

Volkswagen Corrado, Passat.

Various 1992 Mercedes-Benz and BMW models.

IMPORTANT! Some vehicles allow closure of the windows by holding the key in the door to the lock position. These systems often lack safety circuitry, as is built into the 530T. We recommend always using the 529T or 530T to avoid possible accidents.



WINDOW AUTOMATION SYSTEM

ANOTHER AUTO AUTOMATION™ PRODUCT FROM DEI

OWNER'S GUIDE

The 530T Window Automation System offers unprecedented convenience and value!

The 530T will roll up your windows automatically when you arm your security system. If anything impedes the window's travel (such as an arm), the W.A.S. senses the obstruction and stops that window's motion.

IMPORTANT! Never arm the security system with anything protruding through an open window!

If you wish to leave your windows open an inch or two while your security system is armed, simply press an auxiliary button of your security system's remote control **within 20 seconds after arming.** You don't even have to wait for the windows to go all the way up! (This requires a multiple-channel security system.)

If you want to roll down your windows after disarming your security system, simply press the same auxiliary button of your transmitter **within 20 seconds after disarming.**

Your W.A.S. also automates the functions of your window switches. To initiate computer-controlled travel in either direction, simply press and release the window switch (in the appropriate direction, of course). To stop the window, simply tap the switch again (in either direction). The window will stop automatically when full travel is reached.

The W.A.S. requires no user maintenance. It carries a one year warranty. It is manufactured by Directed Electronics, Incorporated, America's largest automotive security company.