288 - 289 – 290$_{24V}$ COMPACT ALARM SYSTEMS

The system is manufactured from the highest quality components to ensure a long trouble free operating life. These instructions are intended to familiarise you with their very simple operation.

OPERATING INSTRUCTIONS

You should have received two "remote controls" and one override "electronic key*". The "electronic key" will be accepted by a LED/receptacle* that has been mounted in the dashboard. This electronic key will permit control of the system in case of a remote control malfunction. The operation of the electronic key is dealt with later in this text.

FUNCTIONS

Button A: arming/disarming of the alarm;

Button B: panic, ultrasonic function exclusion;

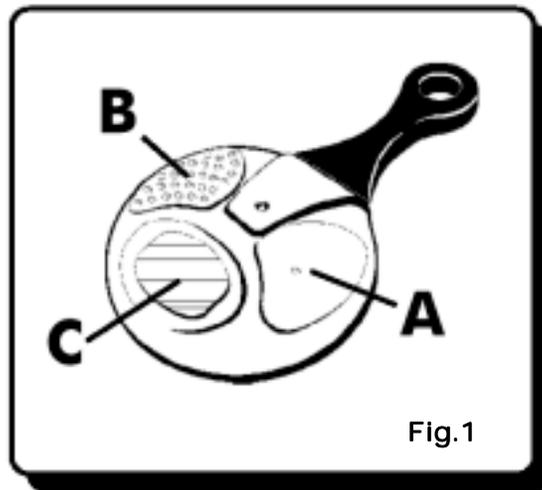**Button C:** special programmable functions; boot opening* or lighting*.

Fig.1

ARMING THE ALARM SYSTEM
Press **button A (arm/disarm)**, located on the right of the remote control (see fig. 1). The direction indicator lights will flash twice and the alarm may give two audible tones (programmable function) generated at the same time to indicate that the alarm system has been armed. The power locks* will close along with the electric power windows* and electric sunroof*. The red LED in the passenger compartment will remain on for 30 seconds (pre-alarm time) and then will begin flashing in a regular pattern.

DISARMING THE ALARM SYSTEM
Press **button A (arm/disarm)**, located on the right of the remote control (see fig. 1). The direction indicator lights will flash once and the alarm may give one audible tone (programmable function) will be generated at the same time to indicate that the alarm system has been disarmed. The power locks* will open and, if **button C** is activated, all the courtesy lights will turn on for 10 seconds. If an alarm was

generated while the system was armed, when the system is disarmed the direction indicator lights will flash briefly (½ second) and an audible tone will be produced to indicate that an alarm condition has occurred. To identify the sensor that caused the alarm, consult the "**ALARM AUTO-DIAGNOSTICS**" paragraph.

ALARM ARMING/DISARMING USING THE ELECTRONIC KEY*
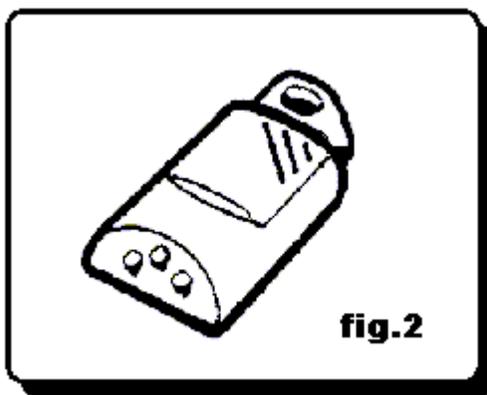
fig.2

ARMING THE ALARM SYSTEM
The alarm system can also be armed using the electronic key (See fig.2). Placing the key on the LED receptacle (See fig.3) arms the alarm without activating the power locking system. The direction indicator lights will flash twice and the alarm may give two audible tones, (programmable function) generated at the same time to indicate that the system has been armed. Then the LED in the passenger compartment will remain on for 30 seconds (pre-alarm time) and then will begin flashing in a regular pattern. Activating the system with the electronic key disables the **SENSOR TESTING** functions (see the **SENSOR TESTING** paragraph).

DISARMING THE ALARM SYSTEM
If the alarm system was previously armed using the electronic key, you will have 10 seconds to enter the vehicle before an alarm condition occurs. Therefore you can open the power locking system manually, enter the car and place the electronic key on the receptacle. If an alarm condition occurs, consult the paragraph "**ALARM AUTO-DIAGNOSTICS**" paragraph.

BUTTON 'B' FUNCTIONS (Panic and Excluding the ultrasonic sensors and electric power window* module)
Panic function: Pressing this button twice within a maximum of 3 seconds activates the siren for 10 seconds and the additional siren*. To stop the sound prior to the 10 seconds, press button 'B' on the remote control.
Excluding the ultrasonic sensors and electric power window* module using the remote control:
Arm the alarm system using button 'A' on the remote control; within 30 seconds (pre-alarm time) press button 'B' of the remote control. The direction indicator lights will flash once and you will hear a brief audible tone to confirm the programming. Now the ultrasonic sensor and accessory output are temporarily deactivated.
The functions will be reset the next time the alarm is armed using the remote control or an electronic key.

SENSOR TESTING
During the 30 seconds arming period, this facility confirms the correct operation of interior/doors/boot-/bonnet detection circuits. This is indicated by a series of audible tones and/or a series of flashes on the

dashboard LED, when one of the circuits is triggered within the pre-alarm time. To self test the detection circuits:

DOORS/BOOT/BONNET DETECTION CIRCUITS
❶ Arm the alarm with the remote control.
❷ Unlock the vehicle.
❸ Within the first 30 seconds of arming the alarm open and close all doors/boot/bonnet. The alarm will respond with 3 audible tones, 3 flashes of the direction indicators and 3 flashes of the LED. If vehicle is fitted with a courtesy light delay system, you may have to wait for the courtesy light to go out before testing the next doors/boot/bonnet detection circuits.

INTERIOR DETECTION CIRCUIT (Ultrasonic/microwave sensors)
❶ Sit inside the vehicle.
❷ Arm the alarm with the remote control.
❸ Within the first 30 seconds of arming the alarm, create movement in front of the interior sensors (normally mounted at top of windscreen). The alarm will respond with a constant audible tone, the direction indicators will illuminate and the LED will go out.

SENSOR ACTIVATION AFTER ARMING
Once armed an alarm condition will be generated by power supply interruption (only self-powered model***) and the turning ON of the ignition key. An alarm condition will not be generated by the door/bonnet/boot being opened or interior (ultrasonic/microwave sensors) movement until the alarm has been armed for 30 seconds (pre-alarm time).

ALARM CONDITION
When a sensor is activated, the system will trigger an alarm condition: direction indicators flash and the siren sounds for 30 seconds (alarm cycle). At the end of the alarm cycle, if the same sensor is still activated, the alarm will trigger an alarm cycle again.

ALARM CYCLE LIMITATION
The system will automatically exclude the sensor, which has generated 8 alarm cycles. All the other sensors will continue to protect your car. The maximum number of alarm cycle for every sensor is 8, except for power supply interruption sensor (10 alarm cycles).

ALARM AUTO-DIAGNOSTICS
If an alarm was generated while the system was armed, when the system is disarmed the direction indicator lights will flash briefly (½ second) and an audible tone will be produced to indicate that an alarm condition has occurred. At any time while the system is disarmed and the ignition key is off, you can check the alarm memory by pressing buttons A and B on the remote control at the same time. By looking at the LED installed on the dashboard, you can determine which circuits generated the last 5 alarm conditions. The LED will begin flashing and the sequence of flashes will identify the relative sensor:

DIAGNOSTICS FLASH CODES
LED OFF:	no alarm conditions have occurred
I FLASH/PAUSE:	the VOLTAGE DROP sensor generated an alarm condition**
2 FLASHES/PAUSE:	the ULTRASONIC sensor generated an alarm condition
3 FLASHES/PAUSE:	the DOOR/HATCH sensor generated an alarm condition
4 FLASHES/PAUSE:	the BONNET sensor generated an alarm condition
5 FLASHES/PAUSE:	the IGNITION KEY sensor generated an alarm condition
6 FLASHES/PAUSE:	the POWER SUPPLY sensor generated an alarm condition***
7 FLASHES/PAUSE:	the BOOT/ADDITIONAL sensor generated an alarm condition*
8 FLASHES/PAUSE:	the GARAGE sensor generated an alarm condition*
9 FLASHES/PAUSE:	FLAT REMOTE CONTROL BATTERY
10 FLASHES/PAUSE:	FLAT INTERNAL BATTERY AUTO-POWER SUPPLY***

Attention:
➢ The causes of the alarm will be displayed in sequence from the last to the fifth. At the end of the display, to repeat the five codes press both buttons again on the remote control.
➢ After checking the flash codes, the memory will be cleared when the alarm is next armed.
➢ The memory of the last five alarm conditions will be cleared when the alarm power supply is disconnected.

PROBLEM SOLVING
If your alarm sounds for no apparent reason, please refer to the **DIAGNOSTICS FLASH CODES** for possible condition. Possible causes of the alarm condition could be:

- Vehicle has been tampered with.

- Windows/sunroof are not fully closed.

- Doors/boot/bonnet are not fully closed.

- Check that the air vents have not been left open. Air movement within the vehicle may trigger your alarm.

- Check the doors/boot/bonnet contact switches operate correctly.

- Articles inside the vehicle are moving e.g. jacket, hanging toys or accessories.

SPECIAL FUNCTION

BUTTON "C" FUNCTION OPTIONS (boot opening/parking lights/courtesy lights)
These functions are addition to the standard installation and may require additional components.

BOOT OPENING*
Pressing button "C" once, will unlock or release the boot lock, allowing you quick entry to the boot area without unlocking the vehicle doors (alarm armed or disarmed). If the alarm is armed at the time of pressing button "C" the alarm will disarm for 30 seconds.

THE PARKING LIGHTS/COURTESY LIGHT LIGHTING*
Pressing button "C" once will activate an output for 10 seconds (alarm armed or disarmed). This function can be used to light the internal courtesy lights or the external sidelights, illuminating the area near the car.
Pressing button "C" again prior to the 10 seconds causes the lighting to switch off (vehicle with courtesy lights delay system may take longer to switch off).

VOLTAGE DROP SENSOR**
This sensor generates an alarm when it detects that the internal courtesy light has turned on. This type of sensor must often be excluded on cars equipped with a timed courtesy light or coolant fan run on.

FLAT REMOTE CONTROL BATTERY SIGNAL
By using the "**Alarm auto-diagnostics**" function, tells you that the remote control battery is almost dead. When the alarm memory is checked, the LED on the dashboard will flash 9 times. This means that the alarm has detected that the remote control battery is almost dead. At the same time, you will notice that by pressing any button on the remote control, the red LED on that remote control will flash intermittently.
It is recommended to use 3V batteries, Lithium battery type CR2032. (See the '**REPLACEMENT OF REMOTE CONTROL BATTERY'** paragraph)

FLAT INTERNAL BATTERY POWER SUPPLY SIGNAL***

If your alarm system is equipped with an internal battery, it can automatically check the battery charge and charging circuit. In case of a malfunction, the system communicates the problem to you through the "**Alarm auto-diagnostics**" function by flashing the LED 10 times.

COMFORT FUNCTION* (only for vehicle equipped with Comfort Closing of locking/windows/roof**)
For cars equipped with Comfort Closing function, the windows can be closed just by pressing and holding button 'A' of the remote control. When the windows have reached the required height, release button 'A' and the windows will stop immediately. In the same way, if button 'A' is pressed and held while disarming the alarm, the power locks will open and the windows will open automatically**. When the button is released, the windows will stop immediately.

CASUAL RE-ARMING*
On your return to the vehicle, if you disarm the system but do not enter the vehicle (doors/bonnet/boot) within 30 seconds, the alarm will automatically re-arm itself (reactivating the power locking system but not the accessory output). Useful if you accidentally disarm the alarm from a distance without knowing. This function is cancelled if you enter the vehicle (doors/bonnet/boot) within 30 seconds from when the alarm is disarmed.

PASSIVE ARMING *
This function allows the alarm to be armed automatically without using the remote control: Turn off the ignition key and exit the vehicle. 10 seconds after the last door is closed/or 10 seconds after the courtesy lights go out the alarm will arm (the function does not activate the power locking system and the accessory output). Please ensure you lock the doors using the normal ignition key!

ADDITIONAL SIREN*
This function allows the alarm to be connected to an additional siren/vehicle horn/paging system and can be programmed to obtain a continuous or intermittent output for the entire alarm cycle.

TYPE OF SOUND*
Two different types of sound can be programmed: monotone or modulated (manufacture default to monotone).

SAFETY LOCKING*
This function automatically closes the power locking system in the following situation: Disarm the alarm with the remote control or electronic key. Enter vehicle and only after having closed all the protected areas (doors/boot/bonnet), turn the ignition key ON. The power locking system will automatically lock the doors after 5 seconds. The doors will unlock automatically when the ignition key is turned OFF.
<u>**IMPORTANT NOTE**</u>: Only to be used if the car is equipped with an original "**crash sensor**" (inertia switch) power locking system that is activated if an accident occurs. If not, a similar one available on the market must be installed. Laserline S.p.A. will be not be held responsible if users do not comply with this note.

ADDITION SENSOR CIRCUIT*
This circuit is used to program the presence of an additional sensor (e.g. hyper-frequency sensor, anti-lifting sensor, microwave sensor, etc.) for additional protection.

IMMOBILISATION* (288/289/290₂₄ᵥ)
When the alarm system is armed, a single internal relay isolates a vehicle starting circuit (e.g. starter motor) to help prevent running of the vehicle.

PASSIVE IMMOBILISATION*
The internal immobilisation relay activates automatically after 30 seconds of turning the ignition OFF or 60 seconds after the alarm has been disarmed using the remote control, without turning the ignition key ON.

The LED installed on the dashboard will begin flashing rapidly to indicate that the internal relay is in the immobilised condition. Whilst in the passive immobilised condition, when the ignition is turned ON the alarm will generate audible tones. If the passive immobilisation is not disarmed by the 10th audible tone the alarm will fully arm and then sound an alarm condition.

To disarm the passive immobilisation, turn the ignition key to the ON position and press button "A" of the remote control. The audible tones will be interrupted and the LED will stop flashing.

SIREN EXCLUDING

Disarm the alarm system using the remote control. Enter the vehicle and make sure that all doors/bonnet/boot are closed. Turn the ignition key ON; within 5 seconds press button "B" of the remote control once. At the same time that you press button "B", you will hear a brief audible tone to confirm the programming. Now the siren sound is temporarily excluded and if an alarm condition occurs, only the direction indicator lights will flash. This function may be necessary in hospital parking areas, ferries, skiing resorts etc.

The function will be reset the next time the alarm is armed using the remote control or an electronic key.

ATTENTION: excluding the siren does not deactivate the additional siren/vehicle horn/paging system and the panic function.

GARAGE FUNCTION

This function allows the vehicle to be left in attended car parks or for vehicle servicing.

With the alarm disarmed, and all doors closed, turn the ignition key ON; Within 5 seconds press button 'A' on the remote control (arm/disarm) three times. The LED on the dashboard will turn on each time the button "A" is pressed and at the same time, you will hear audible tones.

Programming will be confirmed by a continuous audible tone and the direction indicator lights will flash at the same time. The audible tone and the flashing indicator lights will stop immediately after the car ignition is turned off. Now you can use the car for a maximum of 10 minutes. During this period, there will be a continuous audible tone and the direction indicator lights will flash at the same time. At the end of this period (10 minutes), the alarm system will arm itself and if the car is being used at that time, the system will activate the siren.

If you want to exclude the GARAGE FUNCTION prior to the end of the 10 minutes, press button 'A' of the remote control one time (arm/disarm) with the ignition key turned OFF. The direction indicator lights will flash once and you will hear on audible tone at the same time to confirm that the function has been excluded.

AUTO-LEARNING

Auto-learning function allows you to program new remote controls/electronic keys or cancel lost remote controls/electronic keys.

To carry out the auto-learning procedure, at least one functioning remote control or electric key must be available. Then do the following:

❶ Open the door on the driver's side;

❷ Turn the ignition key ON;

❸ Press and hold button "A" on the functioning remote control or insert and hold an electronic key into the receptacle.

❹ Now turn off the ignition key and release button "A" or remove the electronic key from the receptacle. The red LED installed on the dashboard will turn on and remain on, indicating the auto-learning condition.

❺ At this point, press button "A" of all the remote controls or insert the electronic keys into the receptacle, that you want to store into the alarms memory. The red LED will turn off briefly for each remote control or electronic key that has been programmed into the alarm memory.

❻ To complete the auto-learning procedure either:
Turn the ignition ON to exit the function.
Wait 10 seconds for the LED to go out and then start to flash the emergency pin code (see the **How to Know Your Emergency Pin Code** paragraph).

➢ You can program a maximum of 6 remote controls and 4 electronic keys.
➢ The remote controls and electronic keys not programmed during the last auto-learning session will be automatically cancelled by the alarm memory.
➢ If all remote controls and electronic keys are lost, call your nearest area dealer.

DISARMING USING THE EMERGENCY PIN CODE
This function only applies if no electronic key option.
If all the remote controls have been lost or are malfunctioning, you can disarm the alarm system using the "emergency pin code".

HOW TO KNOW YOUR EMERGENCY PIN CODE
To display the emergency pin code (Pin Code), wait 10 seconds after the memorisation of the last remote control or just follow points ❶❷❸ of the "**Auto-learning**" procedure and wait 10 seconds. The system will use the LED on the dashboard to present a series of 5 flashes that will correspond to 5 numbers.

For the numbers		*n° of corresponding flashes*		
5	☞	*n° 5 consecutive LED flashes*	☞	*2 sec. Pause*
6	☞	*n° 6 consecutive LED flashes*	☞	*2 sec. Pause*
0	☞	*n° 10 consecutive LED flashes*	☞	*2 sec. Pause*
5	☞	*n° 5 consecutive LED flashes*	☞	*2 sec. Pause*
4	☞	*n° 4 consecutive LED flashes*	☞	*2 sec. Pause*

On the above example, the Pin Code to note at the end of these instructions would be 5 6 0 5 4.

It is imperative to note on a piece of paper this pin code, if it is different from the original pin code displayed in the rear of these instructions. This pin code must then be stored in a secure location.
Note: If you intend to leave these instructions in the vehicle, the pin code in the back of these instructions should be removed for safe keeping.
This pin code is derived from the first remote control memorised when you auto-learn a new remote control. If you want to change the pin code from the original code, you may have to follow the auto-learning procedure more than once alternating the first remote control until a new pin code is given.

HOW TO DISARM THE ALARM USING THE EMERGENCY PIN CODE
If your transmitter does not work correctly or has been lost, to disarm the alarm system you must insert the **"emergency pin code"** by doing the following:
1) With the alarm armed, activate the siren by opening the door on the driver's side;
2) Enter the vehicle. The alarm will stop sounding after 30 seconds and then the LED installed on the dashboard will illuminate for 5 seconds. Within the 5 seconds, turn on the ignition key for 1 second;
3) The LED installed on the dashboard will start to flash and the alarm is ready to accept the Pin Code. If not interrupted, the LED will flash 10 times. Wait for the flashes corresponding to each digit of your Pin Code to be displayed, then turn ON the ignition key for 1 second **only after the LED is off**. Read Pin Code at the end of these instructions from left to right. For a better understanding, see the example.

EXAMPLE: the code to be inserted is 5 6 0 5 4. First digit 5 - Wait 5 flashes for the first digit. After the fifth flash has been completed and the LED has turned OFF, immediately turn ON the ignition key for 1 second. Turn the ignition OFF and after a pause, the LED will flash for the next digit of the Pin Code; Second digit 6 - Wait 6 flashes for the second digit. After the sixth flash has been completed and the LED has turned OFF, immediately turn ON the ignition key for 1 second. Turn the ignition OFF and after a

pause, the LED will flash for the next digit of the Pin Code; Third digits 0 - For the 0 digit, the flashes to be completed on the LED are 10. Continue until all the digits have been displayed and inputted correctly. If the code inserted is correct, the alarm will automatically DISARM without any audible tones and visual signals. If the code is incorrect, an alarm condition will occur.
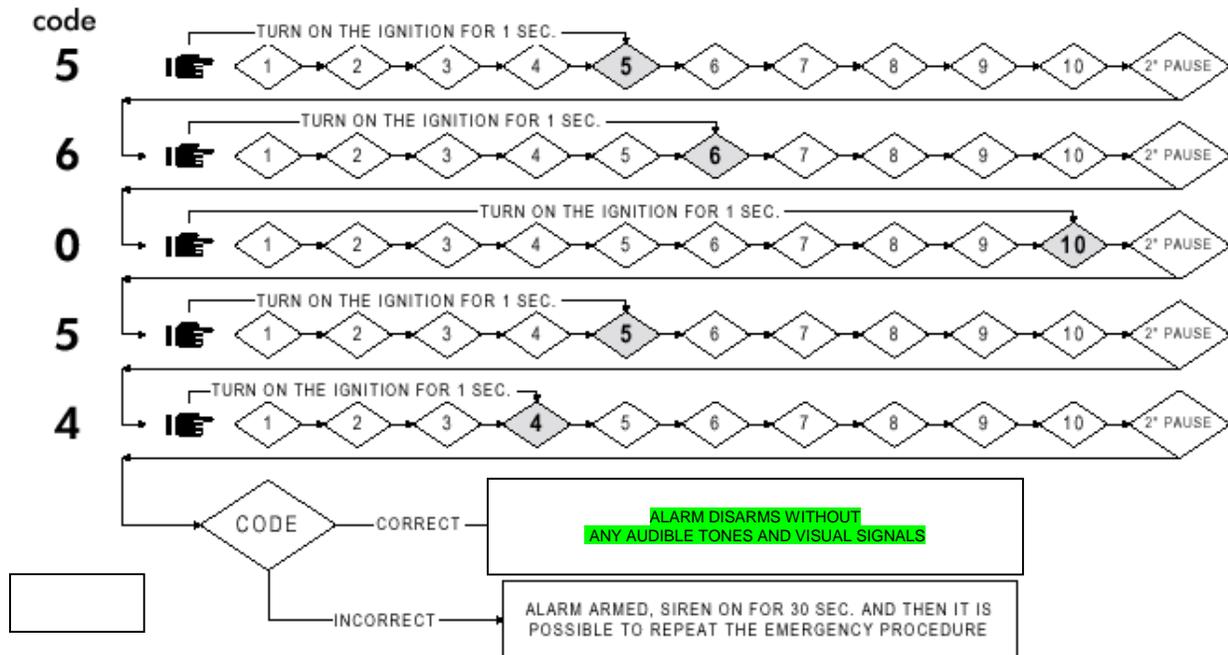
REPLACEMENT OF REMOTE CONTROL BATTERY

MAIN FEATURES

- Rolling code remote control at 434MHz, in accordance with the ETS 300-220 and ETS 300-683 regulations.
- Lithium battery type CR2032, approximate duration 3 years with 20 operations per day.
- Indication of "discharged battery" by the flashing of the red LED on the remote control.
- Anti-crushing cover (resisting up to 80Kg), waterproof, with good resistance to the chemical attacks (petrol, oil, detergents, etc.)

BATTERY REPLACEMENT
- Open the remote by inserting a screwdriver between the two cases of the remote control (fig. 1). Lever to separate the two plastic cases.
- Remove the printed circuit board (fig. 2).
- Remove used battery (fig. 3).
- Insert the new battery taking care to only touch the sides (not on the contact surfaces with the metal contact and the printed circuit), into the centre compartment with the metal contacts (fig. 4).
- Insert printed circuit board back into bottom case. Insuring printed circuit board locates properly into locators in the bottom case.
- Refit top of case and clip together.

Key

* Optional.
** Vehicle dependent.
*** 289/290 24v only

WARNING

ALARMS MUST NOT BE STEAM CLEANED OR PRESSURE WASHED.
BEFORE CARRYING OUT ANY ELECTRICAL WORK ON THE VEHICLE ISOLATE THE SYSTEM BY
REMOVING SYSTEM FUSE/VEHICLE BATTERY OR DAMAGE TO THE ALARM MAY RESULT!

YOUR PIN CODED IS:

<u>NOTE</u>

Manufacturer declines any responsibility for damage of the immobiliser and the vehicle electrical system due to WRONG INSTALLATION OR TAMPERING.
LASERLINE SpA RESERVES THE RIGHT TO EFFECT CHANGES OF THE PRODUCT WITHOUT FURTHER NOTICE.

LIFETIME WARRANTY

Product warranty covers units to be free from defects in manufacture for the lifetime ownership of the original vehicle, in accordance with the terms and conditions of this warranty document.

Any product, which is deemed to be defective, will be replaced or repaired. Accessories including remote controls, touch keys and additional modules are guaranteed for a period of 12 months from date of installation.

Terms and Conditions

1. Product must be installed by an authorised qualified installer.
2. If product is transferred by an authorised installer onto another vehicle then in this case the warranty reverts back to 2 years from the date of the original installation.
3. Warranty is not transferable by the original customer to other owners of the product or accessory.
4. The customer must complete and return the warranty registration document within 21 days from date of purchase in order for the warranty to be valid.
5. The warranty covers product only and not the quality of the installation. The warranty for installation is provided by the installer. We cannot be held responsible for costs arising due to incorrect installation.

6. All warranty claims must be directed through the original installer, accompanied by the original invoice, detailing date of installation and annual service record. Failure to do this will render the warranty invalid.
7. Continuance of product warranty is subject to an annual product service check for which a small charge may be levied by any authorised installer. Evidence of service check record must be provided in support of warranty claims.
8. Warranty does not cover costs incurred for breakdown assistance or vehicle recovery, due to product or accessory failure. Warranty does not extend to reimbursement for damage due to defects in products or accessories.

Exclusions from Warranty

Warranty will not be valid due to the following:

1. Poor response to transmitters due to abnormally high electromagnetic interference.
2. Low battery voltage in transmitters.
3. Abuse or mistreatment of any product or accessory.
4. Loss or damage due to accident, fire, lightening, explosion, flood or water, war or civil disturbances.
5. Damage caused by external electrical source or from abnormal variation or failure of power supply.
6. Failure caused by installation of accessories not approved by the product manufacturer.
7. Failure of product occurring outside Great Britain.
8. Replacement of defective parts within the guarantee period does not include consumable parts or include labour.
9. If product is repaired by a non authorised installer the product will cease to be covered by the warranty.
10. Original manufacturer negligence.

Consumer Details

All warranties are limited to the duration of this warranty.

This is the complete warranty and no other express or implied warranty is valid. Nothing in this warranty shall affect your statutory rights.

IMPORTANT NOTE
FAILURE TO COMPLETE AND RETURN THIS CARD WILL RESULT IN YOUR WARRANTY BECOMING VOID.

CUSTOMER LIFETIME WARRANTY REGISTRATION

Alarm/Immobiliser Model No. ………………………………… Make…………………………………….

Accessories Fitted ………………………………………….. Model…………………………………

Date of Installation………………………………………….. Reg No.……………………………….

Customer Name…………………………………………… Year of Manufacture……………………...

Address……………………………………………………………………………………………………
…….…

Postcode ……………………………………………………….. Tel No. …………………………………….

Installer Name ……………………………………………… Account No. ……………………………….

Address

……..

Postcode ………………………………………………………. Tel No. …………………………………….

I have read and understood the terms and conditions of the Customer Lifetime Warranty.

Customer Signature …………………………………………………………………………………………….

✂---
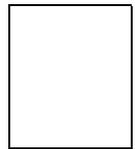
Return to:
LSP AGENCIES
33 CRAVEN COURT
WINWICK QUAY
WARRINGTON
CHESHIRE
WA2 8QU

Service Inspection

1 YRS	2 YRS	3 YRS	4 YRS
INSTALLER'S STAMP	INSTALLER'S STAMP	INSTALLER'S STAMP	INSTALLER'S STAMP
CERT No. DATE SIGNATURE	CERT No. DATE SIGNATURE	CERT No. DATE SIGNATURE	CERT No. DATE SIGNATURE
5 YRS	**6 YRS**	**7 YRS**	**PLEASE NOTE**
INSTALLER'S STAMP	INSTALLER'S STAMP	INSTALLER'S STAMP	

			The above Service Inspection must be carried out in order to ensure the validity of the **Customer Lifetime Warranty**.
CERT No. DATE SIGNATURE	CERT No. DATE SIGNATURE	CERT No. DATE SIGNATURE	

Dealer Stamp
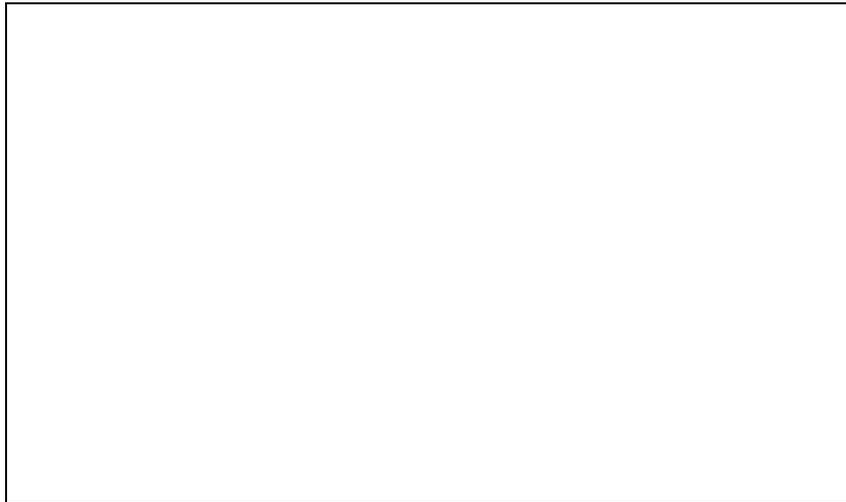
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