# ZONE
## Technologie Électronique Inc.

# INSTALL MANUAL

For the revolving lights control system ZTEP-100™

For mark and unmarked vehicles.

# Content Table

# Warnings

- Read entirely the manual before starting the installation
- The control system of revolving lights and siren ZTEP-100™ from Zone Technologie Électronique Inc. is an essential element for driving in an emergency state. It must be install <u>only </u>by trained and qualified staff.
- The control system of revolving lights and siren ZTEP-100™ is fully programmable. Only the staff that have followed and completed the programming course offered by Zone Technologie Électronique Inc. is authorized to modify the system basic settings.
- Please pay close attention to warnings and instructions provided in this manual.

# Essantial Connections

Like all accessories are related to the module that controls the revolving lights and siren, it is vital to be sure that all connections are perfectly executed and that they meet all standards establish by Zone Technologie Électronique Inc.

Pay close attention to the following:

1) The negative for the revolving light and siren control module
2) The constant +12Vcc (battery) linked to the position #13 or #14
3) The constant +12Vcc (battery) linked to the position # 10
4) The flat cable linking the keyboard to the control module

If these connections are perfectly made, the red flashing light (to the input IN3right) should flash with the contact key in the ignition position

# General Description

The revolving lights control system and siren ZTEP-100™ is a control module and an alimentation module including:

- An electronic siren with 6 tones.
- 8 outputs of protected and independents revolving lights.
- Siren control transfer to the horn.
- An function of closing the headlight and the taillight that is protected against the involuntary activation (no extern relay required)
- Alternative headlight (with positive and negative command).
- A function Antitheft (keeps the motor running after having taken off the key and stops it if we press on the brake pedal without having put back the key in ignition position).
- Control by scrolling arrow, fixed arrow or automatic elevation (requires a docked power module)
- An output protected by a gun electric lock.                    (with a delay for a programmable delay to be used with one hand)
- A module of alternative taillights of 10A by output with a command for the top of the back trunk switch, compatible with the positive or negative output.
- A protection against overvoltage until 30V.

Furthermore, the system includes many utilities such as:

- Detection of low or high voltage for the battery (programmable level).
- Revolving light'' low intensity'' Mode '': Upon the vehicle contact key removal, if one or many emergency accessories are activated, the module closes all the emergency functions except the one (s) pre programmed by the installer.
- Settings can be program by the installer without extern device (directly on the keyboard).
- Cell picture included
- 2 levels of intensity for the warning lights (high density for the day).
- Lighting for the keyboard, included and variable.
- Numeric control for the keyboard volume.

The module can function with all keyboards from Zone Technologie Électronique Inc. Without modifying the programming. The system ZTEP-100™ integrates all functions into one module (excluding the keyboard) and doesn't require any extern components.

# Specifications

Operation Voltage: 10Vcc to 16Vcc

Operation Temperature: -40°C to +75°C (-40°F to +167°F)

Electric Consummation: All close, without keyboard light: 65mA (0.065A)
(Input Voltage: 14V) All close, with keyboard light: 100mA (0.1A)
Max of activated keys (no load): 1.5A
Max of keys (no load, with siren): 9A

> For the total consummation add the power of each activated accessory to the previous enumerated power.

Electrical Consummation: Less than 10mA in all conditions.
(+12V ignition)

Audio Power (siren): 58 Watts and 100 Watts.

Audio Power (vocal): 35 Watts (The maximum level is programmable).

Revolving light output: 8 relay SPST (10A), protected by a fuse of 15A by output.

Alternative Front Lights: 2 relay SPDT (30A), protected by a fuse of 15A.

Alternative Back Lights: 2 relay SPDT (10A), protected by a fuse of 15A.

Front Camouflage output: 1 relay SPDT (30A), unprotected (contact n.f./n.o.).
1 relay SPDT (10A), unprotected (contact n.f./n.o.).
1 relay SPST (10A), unprotected (contact n.f.).

Back Camouflage output: 3 relay SPST (10A), unprotected (contact n.f.).
1 relay SPDT (10A), unprotected (contact n.f./n.o.).

Gun Lock: 1 relay SPST (10A), protected by a fuse of 15A.

Interlock output: 1 negative output of 130mA (0.13A), unprotected (Alimentation of a relay).

Antitheft Output: 1 positive output protected by a fuse 1A
1 negative output unprotected 130mA (0.13A)

Horn Transfer: 1 relay SPST (30A), unprotected (contact n.f.)
(Reversible input)

Position light input: Active = +12V

Break signal Input: Active = +12V

# Installation

## Warnings

- The security of people depends on the reliability of your installation, so it is important to read the manual carefully and to follow all the recommendations and warnings mentioned.
- You must have a good comprehension of the vehicles electrical and electronic systems.
- The sound intensity coming from the siren speaker can hurt the earring system temporarily and even in a permanent way.

> **Caution: Never activate the siren if someone is near the speaker.**

- The speaker sound intensity will be reduce in a drastic way if the cornet opening is blocked or if the speaker is not pointing towards the front. Install the speaker in a place where the vehicle occupants will be less affected by the noise coming from the siren speaker.
- Install the control head and the microphone in a place where it won't bother the operators. The control head must be in an operational view. **It is vital that the control head allows the needed space for the inflated cushions.**
- All wires must be mechanically and electronically protected in an adequate way.
- Once the installation is completed, all the system functions must be tested in addition to the vehicle original functions.
- Never connected inflated cushions on a wire related to the security system. Refer to the vehicle manufacturer manual to learn the wires functions to modify.

## Mechanical Installation

### Siren module installation
### ZTEP-100™

The siren module must be installed away from bad weather. The ideal position is in the back trunk and sufficiently covers to be protected from the rain and the snow when the back trunk is open. However, the module can resist temperature range (of -40°C to +75°C), it doesn't need any heating or air conditioning. Do not place the radio system, the antenna cable or the antenna directly on the siren module or on the control head. The devices which produce sounds can interfere or hurt the system electronic components.

Two twenty feet flat cables are provided with the system. If an additional length is required, please contact Zone Technologie Électronique Inc. to obtain a cable junction.

The siren module has its docked base included and can be install under all angles. The transistors located under the case are linked to the negative and they can cause damages to the module if they come in contact with the window or the body. Use the screws provided in the installation kit.

> **Warning: The transistors can generate intense heat, so they must free of all contact with inflammables materials.**
>
> **Before drilling into a vehicle partition, so be assure that both sides are clear and unblocked.**

# Installation

## Control Head installation

It exist many ways to fix the control head (keyboard), the installer must consult with the user to answer his needs in the best way he can. It is strongly recommended to fix the control head so it is accessible to the user at all times and in all operation conditions. Be sure, once that they are fixed, that the keyboard and the microphone are still accessible in a safe way. Be sure that the keyboard is fixed tightly enough so it doesn't move when a key is pressed.

> **Warning: Be sure that the control head frees enough space so that the inflated cushions can be spread out.**

## Electrical Installation

> **Warning: Before beginning the installation, disconnect the battery of the vehicle.**
>
> **Respect the electrical security norms if not they are risks of fire and burnings can happen.**
>
> **Wait to have completed all the electric connections and to have verified that there is no short circuit before reconnecting the battery.**
>
> **Be sure that the vehicle window is linked to the negative of the battery. If the vehicle is not the type "Police Pack", add a black wire which size is big enough to support the return power of all accessories that you will install.**

Install all the required wires for the system installation and its components. Check carefully all the installation options to be sure not to miss any wires. Install all the electric protections (fuse and fuse holder) on all alimentation wires (the closest to the battery as possible).The wires going through the bulkhead must be protected by a grommet (rubber or plastic).Furthermore, the wires under the hood and in the trunk must be protected by a split cover. The connections under the hood must be covered with dielectric grease to protect it against corrosion.

Install mechanically the different system components while taking care to follow carefully the instructions on the manufacturer (revolving light, colorful alternative light, fix or flashing light, etc.) Make the electric connections while following the recommendations mentioned in the next paragraphs of this manual.

## Module alimentation
## (Battery, ignition, negative)

Connect a wire #8awg or #10awg red (according to the revolving light power) on the marker uses for the revolving light alimentation (for the control module) and connect the wire other end on the battery positive marker. Protect this alimentation wire with a fuse holder or a circuit breaker (adapt to the revolving light power) install as close of possible of the battery.

Connect wire #14awg red on the control module position #13 or #14 and connect the other end to the battery positive marker. Protect this alimentation wire with a fuse holder or a circuit breaker 20 A install as close of possible of the battery.

# Installation

Find in the fuse block a tension of 12Vcc (active only when the contact key is in ignition position), connect the wire #18awg on the module position #10 and connect the wire other end on the module unprotected side. Protect this wire with a fuse holder from the type ATO and with a fuse 3A that is install as close of possible of the junction point.

Connect a black wire of size #14awg (minimum) on the control module grounded terminal and connect the wire other end on the vehicle window while taking care of removing the paint to be sure that there is a good electric contact. Cover this junction with a layer of dielectric grease.

## Horn Transfer

Cut the indicator switch wire (horn) close to the steering wheel and the indicator power wire and link the two cut ends on the positions #16 and #17 to the control module via the orange wires. These wires can be reverses because the module recognizes automatically the input and the output.

> Note that on a few vehicles, the indicator signal is raise with the speed regulator commands. In this case, you should necessarily cut the indicator power wire to link the two ends to the control module position #16 and #17.

## Day lights closure, the brake lights and the reverse lights

The control module has 6 relay incorporate for the function of closing the day and back lights.

Of those, 4 are on the control module control plate and two are on the power plate.

| Control plate | | | |
|---|---|---|---|
| **Relay** | **Canal** | **Contact** | **Position** |
| 4 | 1 | n.f. | 7 et 8 |
| 5 | 2 | n.f. | 5 et 6 |
| 6 | 3 | n.f. | 3 et 4 |
| 7 | 4 | n.f. | 1 et 2 |
| | | n.o. | 0 et 1 |

| Capacity plate | | |
|---|---|---|
| **Relay** | **Contact** | **Position** |
| 22 | n.f. | 19 and 20 |
| | n.o. | 18 and 19 |
| 25 | n.f. | 48 and 49 |

> Please note that none of the relay contacts are protected by the fuses because by linking those to lights circuits, they are sharing the already existing protection devices on the vehicle.

The output #0 to #8, #48 and #49 can support a constant power of 10A constantly; the ones in positions #18, #19 and #20 can support a constant power of 30A constantly. Make the required connections in function of your applications and yours needs.

## Position lights command
## (Active at +12V)

The position lights command input (control module position #9) has 2 functions, first activate the keyboard light when the position lights is working, and secondly, deactivate the camouflage functions (closure of headlights and taillights) offering that way a protection against accidental activation when the transmission is not in the ''Park'' position anymore.

# Installation

This input can be connecting to any wire activating one of the position lights.

## Front alternative lights

The front alternative lights and the day lights functions are linked because it is often the same lamps that alternate and are use as day lights. This is why the day light relay connection closure is found in the alternative lights circuit. Today there is many ways that the car constructors can use to make the day lights worked. We will list the 2 types that are most used, the road lights intensity reduction and the junction lights intensity reduction.

With the arrival of electronics, many systems now detect the modifications made on the vehicle lights. The installer must often add pieces to stimulate the lights presence once these have been cut from the circuit. The 2 following day lights closure diagrams take in consideration that this type of detection device is absent.

The control module has 2 relay whose contacts n.f. and common are independent. They are individually related to the position #20(common) and #21 + #23(contact N.F.) for the relay #21, position #24(contact n.f.) and #25(common) for the relay #20. The relay contacts #20 and #21 are linked together to the control module position #26 via the fuse 15A. For the function of alternative lights to work, if the vehicle lights command work in positive mode, the position #26 must be connected to the battery positive marker.

However if the lights command works in negative mode, position #26 of the module should in this case, be connected on the battery negative marker which will have for effect to reverse the command to lock the gun (position #28) since this one is also link to the marker #26 via the control module relay #19

It should be noted that the speed of flashing is programmable, and that the relay for the headlights closure can be commanded or not (programmable setting) with the alternative lights activation. For the output programming, please refer to the programming section of this manual.



Phares de jour sur Phares de route



Phares de jour sur Phares de croisement
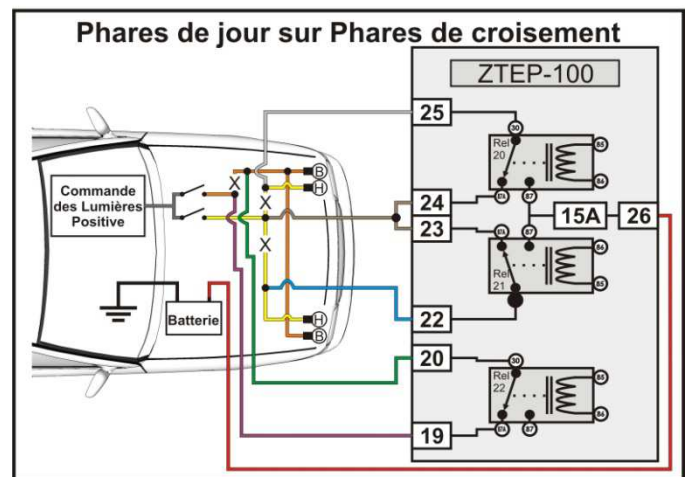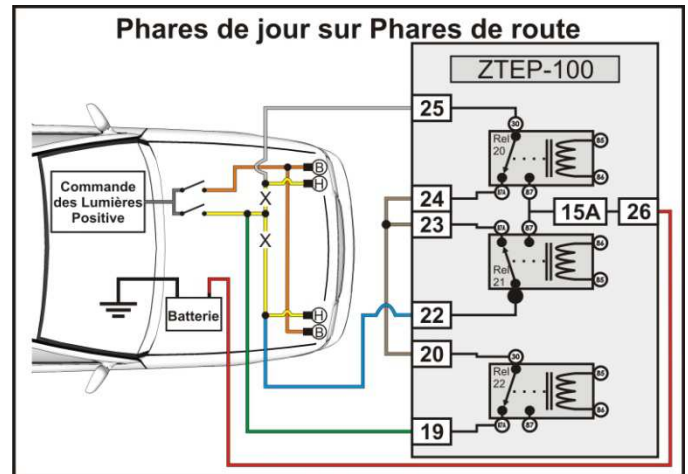
# Installation

## Back alternative lights

The control module (ZTEP-100™) can activate two flashers installed on the rear windshield or inside the trunk. They can be commanded directly by the switch in the trunk top without overpowering the later (nominal power 0.1A). Furthermore, the command can be of the positive (position #30) or negative type (position #29). Its flashing is independent from the head lights blinking and its speed can be change during the programming.
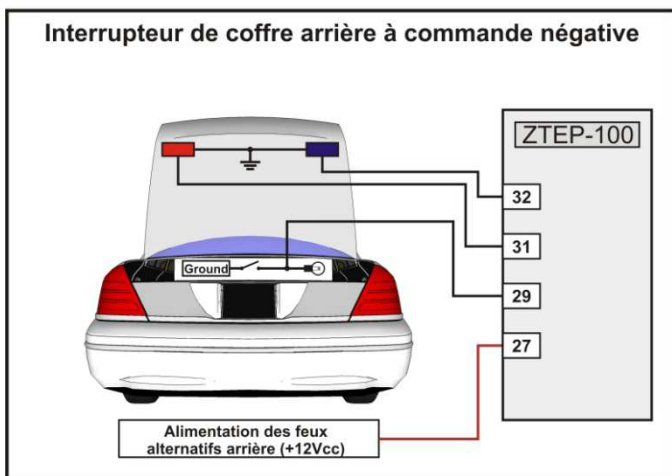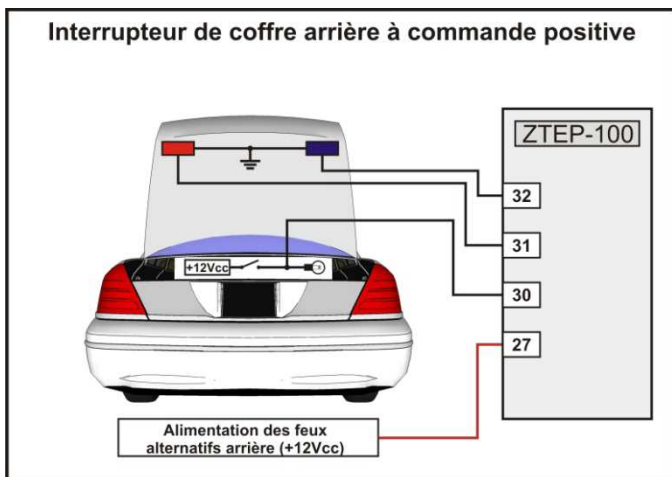
The control module has 8 outputs for the revolving lights which can supply a charge of 100Watts each. Each output is protected individually by a fuse of 15A. All the outputs can be program on any key that control the revolving light. The outputs are either at 12Vcc (revolving light with positive alimentation) or at Ground (revolving light with a negative alimentation) when they are activated and stay floating when they are inactive. The basic programming answers to most revolving lights needs but it can also be reprogram. Each output is identify directly on the control module circuit (power card).



Interrupteur de coffre arrière à commande positive



Interrupteur de coffre arrière à commande négative



Identification des sorties gyrophare selon type d'installation
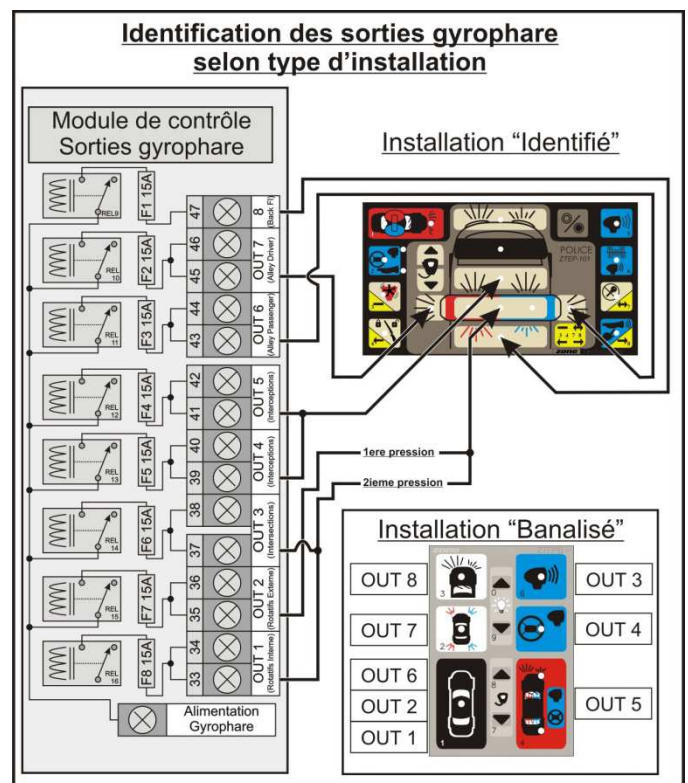
➢ Note that in the case of an installation on a ''unmarked'' vehicle, the revolving lights outputs become accessories outputs.

## Revolving lights

# Maintenance and service

In this section, we are going to go through the more typical problems that can happen during a standard installation on a marked or unmarked vehicle and their solutions.

## Keyboard

### Nothing works on the keyboard:
If the control module red warning light is located to the input right "IeN3" remains shut down (is not flashing), it is required to check the essentials connections:

- The module negative
  Connection between the ground marker and the vehicle window.
- Module alimentation
  +12V at the position #13 or #14 of the module.
- The ignition signal
  +12V at the position #10 with the contact key in ignition.
- The keyboard connections
  Check that the keyboard cable is connected into the module and on the right connector that it wasn't inverse with the P.A. cable, that the connectors and the cable are working properly, that the wire colors order in the connectors are identical.

### The keyboard makes a beep during a few seconds and the warning light of the emergency light blink continuously one after the other:

- Alarm of low battery set off
  Check the vehicle battery state, the module negative, when the alimentation wire size is sufficient, the ATO fuse holder and its fuse, and check or reprogram the detection settings for low battery.

### The emergency key warning lights flashes simultaneously and continuously

- Alarm of high battery set off
  Check the vehicle charge system state and check or reprogram the setting for detection of high battery.

### No light on the keyboard

- No detection signal for the position lights
  Check that there is +12V at the module position #9 when the lights are in active position.

### Keyboard Lighting too low

- Modify manually the keyboard lighting Press on the key of general closing and on the microphone key volume simultaneously.

  ➢ The key to raise the volume raise the lighting and the key to decrease the volume decrease the lighting.

## Revolving light

### No lamps lights up

- Check that there is 12V at the revolving light main alimentation marker
  If there is not 12V, check that the cable is tied firmly to the marker, the fuse of 60A or the circuit breaker install close to the battery thus the connection to the battery positive marker.

### One or many lamps doesn't light up

- Check the revolving lights output state
  Check the fuse (s) for the defective outputs.
- Check the lamps state lamps on the revolving lights

# Maintenance and service

## A lamp lights up on the wrong key

- Error in the revolving light connection
  Check that the wires are connected on the control module right output.
- Check and reprogram the outputs associated with the keys

## Alternative lights and Day lights

### The alternative lights work but not the day lights

- The high beam command is not linked
  .Check that the high beam command is connected to positions #21 or #23 and #24.

### The alternative lights doesn't come on, the day lights work

- Control module is not fed
  Check for the presence of 12Von the inputs #13 or #14. If the 12V is absent, check the fuse of 20A install close to the battery.
- Defective alternative lights fuse
  Check that the intern fuse F9 (close to the position #26) is not defective.

  ➢ In presence of a defective fuse, be sure that there is no short circuit.

### The day lights and the alternative lights don't work

- Lamps bad connection
  Check that the lamps are connected to the positions #22 and #25 of the control module.
- Lamps command polarity
  Check the polarity for the lamps command in the control module position #26 (+12V for lamps with a positive command and ground for a negative command)

## A lamp of alternative lights doesn't light up

- Connection or defective lamp
  Check the lamp connection to the module (position #22 or #25) and check the lamp state.

## The lamps remain light up

- Road lights command activated
  Check that the road lights command is not activate.
- Error in connections
  Check the connections on the control module in the positions #22 and #25, and that there is no +12V in the positions #21 or#23.

## The headlights closure doesn't work

- The position lights signal is active
  Check that the position lights are shut off and that there is 0V in the module position #9.
- The keyboard camouflage key is not active
  Check that all keyboard keys are turns off except the camouflage key.
- The day lights circuit is not connected to the module
  Check that the day lights electric circuit is connected in the control module positions #19 and #20.

  ➢ Be sure that the vehicle day lights system is compatible with the drawings included in the section on the front alternative lights installation.
  If the lights system is not compatible, contact Zone Technologie Électronique Inc. to obtain the plans corresponding to the vehicle used.

# Maintenance and service

## Siren

### The siren doesn't make a sound

- The speaker is not connected
  Check that the speaker is connected
- The speaker is defective
  Disconnect the speaker and check its intern resistance. For a speaker of 100 Watts, the resistance between the wires should be around 4 to 5 Ohms. Check that there is no short circuit between the speaker wires and the vehicle window.
- The speaker is not fed
  Disconnect the microphone wire of the control module and check the state of the intern fuse F1115A located behind the connector, positions #10, #11 and #12.

### The siren sound is low

- The opening cornet is clogged
  Check that the cornet is not clogged and that the speaker is not defective.

  ➤ If the problem remains after having taken the previous steps, replace the control module.

## Microphone

### The microphone is not working, but the siren does

- The microphone is defective
  Try another microphone
- The microphone connection is defective
  Check the flat cable and its connectors of the phone type and the junction 8-8.

### The microphone and the siren doesn't work

- The speaker is not fed
  Check the F11 15A module fuse.
- The speaker is defective

Check the speaker and its connections.

## Function low intensity mode

### When I shut down the engine, the system shut off even if a emergency function is activate

- Function low intensity not program
  Check if the function is program.
- Battery tension too weak
  Check the battery tension in the control module markers #13 and #14.

### A bad function remains activate when I shut off the engine

- Error in the revolving light connection
  Check the revolving lights connections position.
- Programming error
  Check the registry programming of active channels in the low intensity mode.

### The system remains active when I turn off the engine

- The ignition signal remains active
  Check the ignition signal +12V in the position #10 of the control module.
- Programming error
  Check the registry programming of active channels in the low intensity mode.

## Front and back lights closing

### Incapacity of activating the camouflage key (triple beep)

- The position lights are active
  Check if it is 0V at the module input #9.
- One or some functions are activated
  Deactivated all functions except camouflage.

# Maintenance and service

## One of the taillights doesn't shut off

- <u>Error in the light connection</u>
  Unplug the wires corresponding to this lamp and check if it does shut off. If it remains lighten up, check the place where you have cut the wire.

## Horn Transfer

### The horn is still active and the siren doesn't get activate by the steering wheel

- <u>The horn wire hasn't been cut</u>
  Disconnect the wires in the positions #16 and #17 in the control module. If the horn still works, then, the horn wire hasn't been cut.

### The horn is still active and the siren can be command by the steering wheel

- <u>The horn wire hasn't been cut</u>
- 

### The horn doesn't work anymore

- <u>Error in modifying the horn circuit</u>
  Make a short circuit in the module horn inputs #16 and #17. If the horn still doesn't work, then, the circuit modification wasn't done correctly.

## Back alternative lights

### The lights doesn't flash when the trunk is open

- <u>Error in the command connection for the trunk interrupter</u>
  Check if the trunk interrupter command polarity is connected in the right position of the control module.

  - Positive command (+12V) : Position #30
  - Negative command (GND) : Position #29
- <u>The alternative lights are not fed</u>
  Check the module intern fuse F12 15A.
- <u>The alternative lights are defective</u>
  Apply a 12V on the control module outputs #31 and #32 and check if the alternative lights work.

### Only one lamp flashes

- <u>The inactive lamp is defective</u>
  Apply+12V on the output corresponding to the defective lamp and see if it lights up.

### The lamps flashes even if the trunk is close

- <u>Error in the interrupter signal connection for opening the trunk</u>
  Check if there is no interrupter signal for opening the trunk in positions #29 (GND) and #30 (+12V) with the interrupter is in position ''trunk closed''.
- <u>Error in the alternative lights connection</u>
  Disconnect the wires in the control module positions #31 and #32 and check if the lamps shut off.

## Electric gun lock

### No 12V on the position #28

- <u>The delay for programming the electric lock is too short</u>
  Reprogram the opening delay for the electric lock.
- <u>The lock command is defective</u>
  Check the module intern fuse F9 15A.
- <u>No +12V at the module input #26</u>

# Maintenance and service

## Antitheft System

➤ Note: The complexity of today vehicles electronic systems requires a deep knowledge of these systems to be able to make this installation. **It is strongly recommended to use the original connections diagrams from the vehicle manufacturer to make the installation.**

### The engine stops running when I shut off the engine even after I press the antitheft key

- The engine detects a brake signal
  Check the control module tension signal at the input IN1. If the signal is at +12V, the module interprets this signal like a brake signal. Check the signal connection to the module.
- Error in the antitheft module assembly
  Put the positive (+12V) on the relay antitheft module command in the control module position #15 and shut off the engine contact. If the engine stops, an error happened during the antitheft module assembly. Check your assembly.

### The engine doesn't stop running anymore

- The module doesn't detect a brake signal
  Check that there is a tension of +12V in the control module input IN1 when you step on the brake pedal.
- Error in the antitheft module assembly
  Disconnect the wire in the control module position #10 (ignition). If the engine doesn't stop check your antitheft module assembly.

## Control Module (A MP)

### The red warning light doesn't flash and remains light up

- The flat cables were reverse on the amp
  Check if the keyboard cable and the P.A. cable haven't been reverse on the module.
- The flat cable is defective
  - Check if the order 2 male connectors are identical.
  - Check the state of the flat cable male connectors. Change them if needed.
  - Change the flat cable.

### The red warning light doesn't flash and remains shut down

- The module doesn't receive a ignition signal
  Check if there is an ignition signal (+12V) at the control module input #10.
- The module alimentation is defective
  Check the constant alimentation +12V in the positions #13 or #14 and the control module negative (GND).
- The flat cable is defective
  Check the flat cable as indicated in the previous paragraph.

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**If the solutions provided in this maintenance and service guide doesn't fix the problems that arise during the installation, contact us to obtain de help of a technician.**

**Zone Technologie Électronique Inc.**
**Phone Number : 450-572-1476**
**Toll Free: 1-866-362-9663**
**Fax : 450-672-0898**

# Programming

Zone Technologie Électronique Inc. uses a programming philosophy by address and data which allows a precise configuration of many keyboard settings and allows the installer or the user to configure most scenarios.

To access the programming mode by address, press the key of general closing and without releasing it, press on the key that allows you to chose the siren during 4 seconds or until many warning lights light up. Once in the programming mode, release the 2 keys, and then you are ready to enter the configuration addresses and data.

To exit the programming mode, press again on the key of general closing.

To change a setting, 2 numbers must be entered on the keyboard:
- The setting address to configure (address)
- The configuration setting (data).
These 2 numbers are included between 000 and 255 (entering a value higher than 255 will result in an unknown configuration).The address and the data must contain 3 numbers each.
Example: At the address 15, I want to enter the setting 127, so, I must enter the numbers 0-1-5 (a double beep is heard after the third number has been entered) and then, enter the numbers 1-2-7 (a triple beep will be heard). The signification of these setting will be described later.

If you program wrong codes or if you forgotten the codes that you have programmed, you can reset the default values by programming the data 255 to the address 255. After, disconnect and reconnect the keyboard.

Répartition des touches numériques sur clavier identifié

POLICE
ZTEP-101

Répartition des touches numériques sur clavier banalisé

zone Technology ZTEPB-101
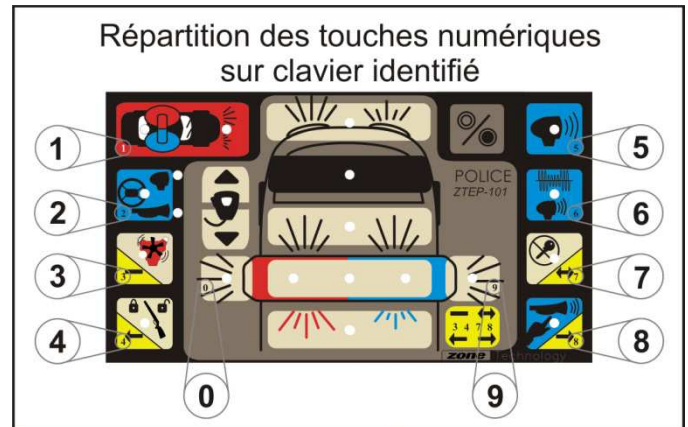
The identified keyboard has 24 keys spread like on the drawing below. You will see that the central key and the emergency key have really the same function. With a different fascia and a different programming, we could have 24 keys available. The numbers written inside the keys are there to identify them so they can be program into a function.

Identification numérique des touches

| 21 | 17 | 8 | 7 | 5 | 1 |
| 22 | 18 | 10 | 9 | | 2 |
| | 19 | 12 | 11 | | |
| 23 | 20 | 14 | 13 | 6 | 3 |
| 24 | | 16 | 15 | | 4 |

# Programming

## Programming Mode of identified keyboard

There is 4 programming modes integrate in the identified keyboard which is accessible by pressing on the general closing key and one of the following keys depending on the chosen mode:

- Mode 1: General closing + key 6 →Programming the keyboard codes.
- Mode 2 : General closing + key 5  →  Programming the interface characters
  Video (Ex.: Police body name).
- Mode 3: General closing + key 1 → Programming the position of the video interface characters display.
- Mode 4: After entering the keyboard codes programming mode (mode 1), press on the interception and the back flasher key simultaneously to enter in mode 4.
  This programming mode will allow you to program the auxiliary modules codes (6 relay, strobes etc.). Note: the leds should flash

Press on the 2 keys until the leds light up according to one of the following scenarios:
- Mode 1 : Leds corresponding to the keys marked as 0 to 9
- Mode 2 : Leds corresponding to the keys marked as 0 to 9+ interception and back flasher
- Mode 3 : Identical to mode 2
- Mode 4 : Identical to mode 1 but with flashing leds

To exit the programming mode, press on the key general closing

## Pre program Codes

There is 2 series of codes pre programmable during a reset:

- Standard Codes:   To program these codes, do a reset on the keyboard (255-255). Disconnect and reconnect the keyboard and put back the ignition.
- S.Q. Codes :   To program these codes, do a reset on the keyboard (255-255). Disconnect the keyboard, then press and hold down the key 8 before reconnecting the keyboard. Release the key 8 once the leds are shut off.

## Downloading

A keyboard codes copy can be memorized into the amplifier to prevent the lost of codes during maintenance or keyboard replacement. This function also allows recopying the codes into other keyboards. Once in the programming mode, press and hold down the camouflage key, then, press ob the interception key and wait for the download to end by looking at the state of associated visual indicator.

# Programming

## Programming Code for the identified keyboard

| ADDRESS | DEFAULT | DESCRIPTION | REFERENCE | NOTE |
|---|---|---|---|---|
| 003 | 000 | Allows the keys programming left side light, right side light and front light Take down) on the key EMERGENCY | 000 = No key<br>001 = Left side<br>002 = Right side<br>004 = Front light (Take down)<br>Note: To get more than one key, add the values above. | The key function scans change from one membrane to another. Ex. :<br>001 = Key #6<br>002 = K. #20<br>004 = K. #11+#12<br>See table 3 |
| 004 | 000 | Activate the siren option « BURST » during the horn transfer into siren mode. So every time there is a pressure on the horn the YELP siren will be heard during the entire pressure. | 000 = Deactivate<br>001 = Activate | |
| 005 | 000 | Key EMERGENCY activation on the keyboard by the input IN3 | 000 = Option deactivate<br>001 = Option activate | |
| 006 | 127 | Auto test mode frequency | Reserved for Zone Tech | |
| 007 | 000 | Siren YEP-YEP activation | 000 = Without YEP-YEP<br>001 = Siren YEP-YEP on the key #7 | |
| 008 | 000 | Key AUX location | 000 = Key #7<br>001 = Key #3 | |
| 009 | 002 | Number of beep when the key is activate without ignition (See address 010 for the delay between each beep) | | |
| 010 | 120 | Delay between each beep when the camouflage key is activate | | |
| 011 | 000 | Number of minutes before the accessories closing activated of the module (multiply the entered value by 2 to obtain the number of minutes). If no accessory is activate, no delay for closing. | Ex : 010 = 20 minutes | |
| 012 | 000 | 000 =Inactive camouflage key without ignition<br>001 =Key camouflage remains active when the ignition is close. (See address 009 and 010) | | |
| 013 | 000 | Activate the SURE (Laval) siren, on the camouflage key | 1 = Activated by the camouflage key | |
| 014 | 000 | Doesn't shut off the emergency interception and the general closing key | 1 = Doesn't shut off | |
| 015 | 000 | Activate the arrows symbols directly by the 4 arrows keys with the key $2^{nd}$. | 0 = Activate by the key $2^{nd}$. | |
| 016 | 000 | Activate the output let and right arrow when the double arrow key is activated. | 1 = Left and right arrow on the key double | Mode fixed arrow only :<br>211 = 001 |

# Programming

## Programming Code for the identified keyboard (continue)

| ADDRESS | DEFAULT | DESCRIPTION | REFERENCE | NOTE |
|---|---|---|---|---|
| 017 | 000 | Activate the SURE (Laval) siren, on the key AUX. | 1 = Active on the key AUX. | |
| **018** | 000 | Activate the key auxiliary in case of emergency | 1 = activate in case of emergency | **Doesn't work.** |
| **020** | indeterminate | Save the RRB module volume | Reserved | Do not configured |
| 019 | 000 | Activate the emergency key and the siren by the RF remote | 1 = Accept the receptor commands | |
| 021 | 000 | Activate the trunk flashing relay in the fixed mode on the auxiliary (key 3). | 0 = No relay activate<br>1 = Relay output 31<br>2 = Relay output 32<br>3 = Relay out. 31 and 32 | |
| 023 | 000 | Running the horn transfer without stopping | 0 = Wail, Yelp, Stop<br>1 = Wail, Yelp, Wail, … | Latest version of the soft required. |
| 024 | 000 | Reverse the horn transfer sequence | 0 = Siren, air horn, …<br>1 = Air horn, siren… | |
| 025 | 000 | Programming the revolving light outputs on the auxiliary key. | See table 1 | |
| 026 * | 000 | Programming the trunk flashers and the back camouflage key activation on the slide and/or emergency (the function can be deactivated with the input IN_1 (see address 240)). | See table 5 | Program 004 at the address 214 so this function will be valid. |
| 027 * | 000 | Activate the blinking revolving light output with the slide. Note :program the flashing output at the address 035 | See note in Table 5 | Only the data 2, 4, 8, 16 can be program. |
| 028 | 001 | Programming the revolving light outputs on the back flasher. | Table 1 | |
| 029 | 128 | Programming the revolving light outputs on the revolving light key first pressure | Table 1 | |
| 030 | 192 | Programming the revolving light outputs on the revolving light key second pressure | Table 1 | |
| 031 | 224 | Programming the revolving light outputs on the revolving light key third pressure | Table 1 | |
| 032 | 064 | Programming the revolving light outputs on the mode « Low intensity» | Table 1 | |
| 035 * | 000 | Programming the revolving light outputs in blinking<br>Note : can be activate by the address 027 | Table 1 (see note) | Only the data 2, 4, 8, 16 can be program. |
| 036 | 004 | Programming the flashing outputs speed chosen at the address 035.1 = fast,255 = slow | Value : 1 to 255 | |
| 037 | 000 | Programming the alternative revolving lights outputs programmed at the address 035. Program only the outputs to be reversed. | Table 1 | |

# Programming

## Programming Code for the identified keyboard (continue)

| ADDRESS | DEFAULT | DESCRIPTION | REFERENCE | NOTE |
|---------|---------|-------------|-----------|------|
| 039 | 004 | Programming the revolving lights outputs on the key « Passenger address light» | Table 1 | |
| 043 | 002 | Programming the revolving lights outputs on the key «Driver address light» | Table 1 | |
| 050 | 024 | Programming the revolving lights outputs on the key « Interception » | Table 1 | |
| 177 | 000 | Camera video mode: transform the 4 keys arrow/auxiliary into arrow/camera keys. | 0 = auxiliary /arrow<br>1 = camera/arrow | |
| 192 | Indéterminé | Function use for the keyboard lighting | | |
| **197** | 008 | Cell picture deposit | 0 = darkness<br>255 = sun<br>Value : 0 to 255 | Do not use. |
| 198 | 255 | Freeze/unfreeze the keys : 23, 24, 16,14, 13,15 | See table 3 | |
| 199 | 255 | Freeze/unfreeze the keys : 6, 4, 3, 2, 1, 5 | See table 3 | |
| 200 | 255 | Freeze/unfreeze the keys : 21, 22, 20, 19, 18 | See table 3 | |
| 201 | 255 | Freeze/unfreeze the keys : 12, 11, 8, 10, 9, 7 | See table 3 | |
| 202 | 180 | Programming the leds intensity in night mode | 0 =Day Mode<br>255 =very weak<br>Value : 0 to 255 | |
| 203 | 000 | Control the arrow or the auxiliary accessories | 0 = Aux. accessories.<br>1 = Arrow | |
| 204 | 004 | Front alternative lights speed | 1 = Fast<br>255 =Slow<br>Value : 0 to 255 | |
| 205 | 002 | Scrolling arrow speed | 1 =Fast<br>255 =Slow<br>Value : 0 to 255 | |
| 206 | 001 | Scrolling arrow Mode | 1 = 5 outputs<br>0 = 7 outputs | |
| 208 | 000 | SQ mode and number of pressure on the revolving light key | 0 =With Slide + 3 pressures slide<br>1 =Mode without slide + 2 pressure slide | |
| 210 | 005 | Speed of the lamps back flashing arrow when the arrow is programmed in flashing mode. See address 250. | 1 =Fast<br>255 =Slow<br>Value : 0 to 255 | |
| 211 | 000 | Scrolling arrow Mode | 0 =Scrolling<br>1 =Fixe(1  active output by arrow symbol) | |
| 212 | 004 | Speed of the module trunk alternative lights (output 30 and 31) | 1 =Fast<br>255 =Slow<br>Value : 0 to 255 | |

# Programming

## Programming Code for the identified keyboard (continue)

| ADDRESS | DEFAULT | DESCRIPTION | REFERENCE | NOTE |
|---------|---------|-------------|-----------|------|
| 213 | 037 | Electric gun lock delay | 1 =Fast<br>037 = 2 seconds<br>255 =Slow | |
| 214 | 002 | Trunk flashing module activation | 0 =With the ignition signal<br>1 =On the key « Emergency »<br>2 =On the key « Back flasher »<br>3 = On the keys « Emer. » and «Back flasher. »<br>4 =Deactivated<br>5 =On « Emergency » and « Slide »<br>6 et + = Deactivated | Must be at 4 when the address 026 is not at 000. |
| 215 | 001 | Turn on the revolving light low intensity mode when a low battery is detected. | 0 : deactivated function<br>1 : activated function | |
| 216 | 001 | DRL Relay activation on the camouflage key and on the alternative lights key.<br><br>Note: When the two front alternative lights relay are programmed to the value 003 activates itself continuously and without flashing on the camouflage key. | 0 = On the camouflage key only<br>1 =On the camouflage and alternative keys<br>2 = On the alternative key only<br>3 = On the camouflage key only and 2 alternative relay always active. | |
| **217** | 037 | Delay before the change in mode day/night of the bit representing the cell picture on the communication. | 037 = 20 secondes<br><br>Value : 0 to 255 | **Do not use.** |
| 218 | 025 | Volume (vary when the key increase or decrease is pressed). | Valeur : 0 to 255 | |
| 219 * | 030 | The time that the keys and the slide will be frozen because of low battery detection. | 0 = 0 sec.<br>030 = 20 secondes<br>255 =Maximum value | |
| 220 | 036 | P.A. maximum power. | 000 =  0 Watts<br>024 = 35Watts<br>255 = Maximum value | |
| 221 | 000 | Automatic antitheft. Activated the output 15 when the ignition is turn off while an emergency function is activated. | 0 =Deactivated function<br>1 =Activated function | |

# Programming

## Programming Code for the identified keyboard (continue)

| ADDRESS | DEFAULT | DESCRIPTION | REFERENCE | NOTE |
|---|---|---|---|---|
| 222 | 000 | Output number 28 programming. | 0 = Lock Gun<br>1 =Camera interface (active on the siren).<br>2 = Active on the camouflage and front alternative key.<br>3 =Active on the camouflage key.<br>4 =Active on the alternative lights key.<br>5 =Deactivated relay.<br>6 =Timer (address 247 for the time base). | |
| 223 | 001 | Revolving light low intensity mode. When the ignition is close while an emergency function is activated, all the functions close except for the functions programmed at the address 032. | 0 =Deactivated function.<br>1 = Activated function. | |
| | 000 | So that the address 011 works. | | |
| 224 | 005 | Zoom function delay in seconds on the video camera. | Value : 0 to 255 | |
| **225** | 016 | Adjusting the counter precision by 1 second on the zoom | Value : 0 to 255 | ==Never modify this value.== |
| 227 | 000 | Programming the home alternative lights. Allows changing the sequence of alternative lights flashing.<br>Cette adresse est jumelée avec les adresses 228 à 232. | 0 =Normal alternative lights.<br>1 = Home alternative lights mode. | |
| 228 | 002 | Number of flashes of the left light. (227= 001) | Value : 0 to 255 | |
| 229 | 002 | Number of flashes of the right light. (227= 001) | Value : 0 to 255 | |
| 230 | 002 | Number of flashes of the two lights. (227= 001) | Value : 0 to 255 | |
| 231 | 003 | Number of left and right lights alternations (227= 001) | Value : 0 to 255 | |
| 232 | 002 | Number of two lights flashes repetition. (227= 001) | Value : 0 to 255 | |
| 233 | 040 | RRM volume maximum power | Value : 0 to 255 | |
| 237 | 000 | Doesn't deactivated the camouflage function by a signal on the position 9 (input, position lights). | 0 =The camouflage closes with a signal on position 9.<br>1 =The camouflage doesn't close with a signal on position 9. | |

# Programming

## Programming Code for the identified keyboard (continue)

| ADDRESS | DEFAULT | DESCRIPTION | REFERENCE | NOTE |
|---|---|---|---|---|
| 238 * | 000 | Programming the key « back flasher» on the emergency key. | See table 5. | |
| 239 | 000 | Key « lock gun» with a delay or a swing. | 0 =Delay<br>1 =Swing | |
| 240 | 000 | Stopping the trunk flashers (pos 30 and 31) on IN_1 and deactivation of back camouflage relay if they are programmed on emergency (address 026). | 0 =No stop<br>1 =Stop | |
| 241 | 001 | Freeze the arrow selection key. | 0 =Frozen key<br>1 =Unfrozen key | |
| 243 | 001 | Deactivated camouflage by the emergency key. | 0 =Doesn't deactivate<br>1 =Deactivate | |
| 244 | 004 | Program the key « record » on the slide<br><br>Note: Requires a camera interface and the address programming 177 to 001. | See table 2. | |
| 245 | 030 | Delay before the application of alimentation on the camera output<br>Note: Requires a camera interface and the address programming 177 to 001. | Valeur : 0 to 255 | |
| 246 | 030 | Time in minutes of video that has stopped recording when the ignition is taken off. | Valeur : 0 to 255 | Deactivate amp. |
| 247 | 000 | Time in minutes during which the timer is stopped. | Valeur : 0 to 255 | Doesn't deactivate the amp |
| 248 | 000 | Stopping of the arrow flashing mode by the input IN_1 when the flashing mode is program on the arrow<br>Note: The address 250 must be program to 001 | 0 =Doesn't stop<br>1 =Stop | |
| 249 | 000 | Program the siren on the slide. | See table 2 | |
| 250 | 000 | Program the arrow flashing mode on the slide. | See table 4 | |
| 251 | 004 | Program the horn transfer on the slide. | See table 2 | |
| 252 | 004 | Program the alternative light on the slide. | See tableau 2 | |
| 253 | 006 | Program the arrow output selection on the arrow left flasher. | Value : 0 to 255 | |
| 254 | 048 | Program the arrow output selection on the arrow right flasher. | Value : 0 to 255 | |

*Functions with error: They have been corrected on the version 10 (to know the keyboard version, enter into the programming mode and hold down the arrow key during 1 second and release it. To exit this mode, press once again on the arrow key.*

# Programming

**ADDRESSES ASSOCIATED TO THE SLIDE:**

022: ……..      Programming the antitheft on the slide
026: ……..      Programming the trunk flashers on the slide
027: ……..      Programming the revolving light outputs in the flashing mode on the slide
244: ……..      Program the record key (recording) on the slide
249: ……..      Program the siren on the slide
250: ……..      Program the arrow flashing mode on the slide
251: ……..      Program the horn transfer on the slide
252: ……..      Program the alternative lights on the slide

**ADDRESSES OF REVOLVING LIGHTS OUTPUTS PROGRAMMING (OUTPUTS 33 TO 47):**

025: ……..      Programming the revolving light outputs on the auxiliary key
027: ……..      Activated the flashing revolving light output on the slide.
                 Note: Program the flashing output to the address 035
028: ……..      Programming the revolving light outputs on the key« Back flasher »
029: ……..      Programming the revolving light outputs on the revolving light key $1^{st}$ pressure.
030: ……..      Programming the revolving light outputs on the revolving light key $2^{nd}$ pressure.
031: ……..      Programming the revolving light outputs on the revolving light key $3^{rd}$ pressure.
032: ……..      Programming the revolving light outputs on the « Low intensity » mode
035: ……..      Programming the flashing revolving light outputs.
                 Note: Must be already activate by the address 027
036: ……..      Programming the flashing outputs speed chosen at the address 035.
037: ……..      Programming the alternative revolving light outputs which were previously programmed
                 to the address 035. Program only the outputs to reverse.
039: ……..      Programming the revolving light outputs on the key « passenger address light ».
043: ……..      Programming the revolving light outputs on the key « driver address light »
050: ……..      Programming the revolving light outputs on the key « interception ».
215: ……..      Put on the revolving light low intensity when there is a detection of low battery.
223: ……..      Revolving light low intensity mode. When the ignition closed while the emergency
                 function is activated, all the functions close except the functions programmed at the
                 address 032.

# Programming

**ADDRESSES OF SCROLLING ARROW OUTPUTS PROGRAMMING (ARROW MODULE REQUIRED):**

015: ……..     Use the 4 arrows keys directly

194: ……..     Force the state cell picture in day mode
(With the directionnal arrow system only).

205: ……..     Scrolling arrow

206: ……..     Arrow outputs number (5 or 7).

210: ……..     Speed of back flashing of the arrow lamps when the arrow is programmed in the flashing mode. See address 250.

211: ……..     Scrolling arrow mode (fixed or scrolling).

241: ……..     Freeze the arrow selection key.

248: ……..     The flashing modes stops by the input IN_1 when the flashing mode is programmed on the arrow (address 250)

250: ……..     Program the arrow flashing mode on the slide.

253: ……..     Program the arrow outputs selection on the arrow left flasher.

254: ……..     Program the arrow outputs selection on the arrow right flasher.


**ADDRESS FOR THE FLASHING MODULES PROGRAMMING:**

026: ……..     Programming the trunk flashers on the slide.

027: ……..     Activated the flashing revolving lights outputs with the slide.

035: ……..     Programming the flashing revolving lights outputs.

036: ……..     Programming the flashing outputs speed chosen at the address 035.

037: ……..     Programming the alternative revolving lights outputs programmed to the address 035.
Note: Program only the outputs to reverse.

204: ……..     Alternative headlights speed.

210: ……..     Arrow back flashing lamps speed when the arrow is programmed in flashing mode. See address 250.

212: ……..     Trunk alternative lights module speed (output #30 and #31)

214: ……..     Trunk flashing module activation.

227: ……..     Programming the home alternative lights. Allows changing the alternative flashing lights sequence.

228: ……..     Number of left light flashes. (227= 001).

229: ……..     Number of right light flashes. (227= 001).

230: ……..     Number of two lights flashes. (227= 001).

231: ……..     Number of left and right light alternation. (227= 001).

232: ……..     Number of two lights flashing repetition. 227= 001).

# Programming

238: ……..     Program the key « Back flasher» on the emergency key.

240: ……..     Stop the trunk flashers (pos #30 and #31) on IN_1.

248: ……..     Stop the arrow flashing mode by the input IN_1 when the flashing mode is programmed on the arrow (address 250)

**ADDRESS FOR CAMERA PROGRAMMING:**

177: ……..     Video camera mode: Transform the 4 keys arrows/aux. in arrow/camera keys.

222: ……..     Programming the output #28 (can be use for the camera interface caméra, see code).

224: ……..     Delay in seconds, of the zoom function on the video camera.

244: ……..     Program the record key (Recording) on the slide.

245: ……..     Delay before the alimentation application on the camera output
         Note: Requires a camera interface and the address 177 to 001 programming.

---

Back flasher outputs….……….. (Out 8, position#47)= 001

   Driver side Output ….…… (Out 7, position#45 and #46)= 002

Passenger side Output …………. (Out 6, position #43 and #44) = 004

   Interception Output 1………….. (Out 5, position #41 and #42)= 008

   Interception Output 2………….. (Out 4, position #39 and #40)= 016

   Intersection Output……………. (Out 3, position#37 and #38)= 032

   Exterior rotary Output………… (Out 2, position #35 and #36)= 064

Interior rotary Output …………. (Out 1, position#33 and #34)= 128

**TABLE 1: REVOLVING LIGHT OUTPUTS IDENTIFICATION**
**Note: Add the data for the activation of more than one output**

---

   Slide position 1……………………………. = 001

   Slide position 2.......................................= 002

   Slide position 3…………………………..= 004

**TABLE 2: SLIDE CODE**
**Note: Add the data so it works in more than one position**

# Programming

| Key | Code |
|---|---|
| 15, 7, 5 | 001 |
| 18, 13, 9, 1 | 002 |
| 19, 14, 10, 2 | 004 |
| 20, 16, 8, 3 | 008 |
| 24, 22, 11, 4 | 016 |
| 23, 21, 12, 6 | 032 |

Identification numérique des touches

| 21 | 17 | 8 | 7 | 5 | 1 |
| 22 | 18 | 10 | 9 | | 2 |
| | 19 | 12 | 11 | | |
| 23 | 20 | 14 | 13 | 6 | 3 |
| 24 | | 16 | 15 | | 4 |

**Note :** **To activate many keys, add the codes corresponding to the following table( the data 064 and 128 are not taken in consideration)**

| Address | Data | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 128 | 064 | 032 | 016 | 008 | 004 | 002 | 001 |
| 198 | _____ | _____ | #23 | #24 | #16 | #14 | #13 | #15 |
| 199 | _____ | _____ | #6 | #4 | #3 | #2 | #1 | #5 |
| 200 | _____ | _____ | #21 | #22 | #20 | #19 | #18 | _____ |
| 201 | _____ | _____ | #12 | #11 | #8 | #10 | #9 | #7 |

**TABLE 3 : KEYS THAW**

| | |
|---|---|
| Slide position #1……………………………..= 001 | |
| Slide position #2…………………………..= 002 | |
| Slide position #3…………………………..= 004 | |
| Key « Back flasher»…………… = 008 | |
| Key « Emergency »……………………... = 016 | |

**TABLE 4: SLIDE EXTENDED CODE**
**Note: Add the data so it works in more than one position**

# Programming

| | |
|---|---|
| Slide position 1…………………………… | = 001 |
| Slide position 2…………………………… | = 002 |
| Slide position 3…………………………… | = 004 |
| Key « Emergency »…………………….. | = 008 |
| Revolving light « 1$^s$pressure »………… | = 016 |
| Revolving light « 2$^{nd}$pressure »………… | = 032 |
| Revolving light « 3$^{rd}$ pressure »…………| = 064 |

**TABLE 5: SLIDE EXTENDED CODE 3**
**Note: Add the data so it works in more than one position**

| DATA | DESCRIPTION |
|---|---|
| **001** | **Arrow symbol (doesn't activate the pins 1, 2, 5 ,6)** |
| **002** | **Pin 1 of the connector (1$^{st}$ position near the alimentation contact)** |
| **004** | **Pin 2** |
| **008** | **Pin 7** |
| **016** | **Pin 3** |
| **032** | **Pin 4** |
| **064** | **Pin 5** |

**TABLE 6: OUTPUTS IDENTIFICATION FOR THE ARROW MODULE**

| CHANNEL | DESCRIPTION |
|---|---|
| **CHANNEL A** | **Key double arrow ……... (Pin 4)** |
| **CHANNEL B** | **Key bar arrow ……...... (Pin 3)** |
| **CHANNEL C** | **Key left arrow …….. (Pin 7)** |
| **CHANNEL D** | **Key right arrow ………. (Pin 2)** |
| **CHANNEL E** | **Not used in fixed arrow mode** |

**TABLE 7: OUTPUTS IDENTIFICATION FOR THE ARROW MODULE**

# Programming

## Details for the programming codes versions for marked keyboard

**Note: To obtain the programmed code version number, enter in the keyboard programming mode by pressing simultaneously on the general closing key and the key 6during 4 second or until many warning lights flash. Then, press on the arrow key and watch the sequence of warning lights to identify the code version. To exit this mode, press the general closing key to come back in programming mode and another time to exit the programming mode.**

**Version 11:**  June 9 2005, corrected back alternative bug CUM on the slide and emergency Corrected antitheft on slide 1.

**Version 12:**  June 17 2005, corrected emergency on the ignition caused by the new remote soft.

**Version 13:**  July 14 2005, Laval fireman tone added (Tone SURE).

**Version 14 :**  February 17 2006,.add a programmable setting to the address 243 to prevent the camouflage key of being deactivated by another key or by a light input, furthermore the emergency key can be activated by the camouflage key.

**Version 15:**  June 27 2006, delay on the ignition deactivation.

**Version 16:**  July 20 2006, loop checking 5 times if the memory must be reset.

**Version 17:**  September 1st 2006, camouflage functions correction when 216 = 003.

**Version 18:**  September 7 2006, general closing correction with record.

**Version 19:**  January 10 2007, adding of the control of 2 arrow simultaneous outputs in the fixed arrow mode, address 16.

**Version 20:**  May 18 2007, programming the arrow outputs on the emergency key or on slides 1,2 ou 3 at the addresses 226 (emergency), 234 (slide 1), 235 (slide 2), 236 (slide 3)

# Programming

## Programming code for unmarked keyboard

### To enter and exit the programming mode:

- Press on the keys 0 and 9 simultaneously, hold down the 2 keys until the warning lights (leds) light up.
- To exit the programming mode press on the keys 0 and 9 simultaneously, (same processes than entering in programming mode but without delay).

| ADDRESS | DATA BY DÉFAULT | DESCRIPTION |
|---------|----------------|-------------|
| 001 | 002 →All other modes<br>004 → VIP | Siren $2^{nd}$ tone choice<br>Possible value : 0 to 5<br>Influence by the addresses 24 and 26 |
| 002 | 000 →All other modes<br>001 → VIP | Activate the VIP mode<br>000 →Deactivate<br>001 →Activate |
| 003 | 000 →All other modes<br>012 → VIP | Program the functions camouflage, VIP, portable front and top, conditional siren.<br>000 →Deactivate<br>001 →Camouflage on key 7<br>002 →Camouflage on key 8<br>004 →Active portable front on emergency<br>008 →Active portable top on emergency<br>016 →Non conditionnal siren in VIP |
| 004 | 016 →All other modes<br>200 → Kerr | Programming mode delay activation<br>Possible value : 0 to 255 |
| 005 | 014 → CEGER<br>127 → VIP<br>150 → All other modes<br>158 →Kerr | Keys activated by the emergency key.<br><br>See table 2. |
| 006 | 000 → All other modes<br>032 →VIP<br>128 →Kerr | Revolving lights configuration on the auxiliary 1 key.<br>See table 1. |
| 007 | 000 →All other modes<br>002 → Kerr | Revolving lights configuration on the auxiliary 2 key.<br><br>See table 1. |
| 008 | 000 →All other modes<br>001 → Kerr | Revolving lights configuration on the auxiliary 3 key.<br><br>See table 1. |
| 009 | 000 →All other modes<br>008 → Kerr | Key« **auxiliary 1** » activation on one of the 8 keyboard keys.<br>See table 2. |

# Programming

## Programming code for unmarked keyboard (continue)

| ADDRESS | DATA BY DÉFAULT | DESCRIPTION |
|---|---|---|
| 010 | 000 →All other modes<br>032 → Kerr | Key « **auxiliary 2** » activation on one of the 8 keyboard keys.<br>See table 2. |
| 011 | 000 →All other modes<br>064 → Kerr | Key« **auxiliary 3** » activation on one of the 8 keyboard keys.<br>See table 2. |
| 012 | 000 →All other modes<br>001 → CEGER | Key « **flute** » activation on the key 6 only<br>See table 2. |
| 013 | 008 → CEGER<br>016 →All other modes | Key « **emergency** » activation on one of the 8 keyboard keys<br>See table 2. |
| 014 | 000 → CEGER<br>128 →All other modes | **Key « Horn transfer»** activation on one of the 8 keyboard keys.<br>See table 2. |
| 015 | 004 → All modes | Key « **strobes in 4 corners** » activation on one of the 8 keyboard keys<br>See table 2. |
| 016 | 001 →All other modes<br>016 → VIP<br>128 → CEGER | Key « **siren** » activation on one of the 8 keyboard keys<br>See table 2. |
| 017 | 001 → VIP<br>002 →All other modes<br>008 → Kerr | Key« **alternative lights»** activation on one of the 8 keyboard keys<br>See table 2. |
| 018 | 000 → Kerr, VIP<br>064 →All other modes | Key « **decrease lighting** » activation on one of the 8 keyboard keys<br>See table 2. |
| 019 | 032 →All other modes<br>000 → Kerr, VIP | Key « **raise lightning»** activation on one of the 8 keyboard keys.<br>See table 2. |
| 020 | 000 → Kerr, VIP<br>008 →All other modes<br>016 → CEGER | Key « **camouflage** » activation on one of the 8 keyboard keys.<br>See table 2. |
| 021* | 000 → VIP<br>004 → CEGER<br>016 →All other modes | Function« **back flasher»** activation on one of the 8 keyboard keys.<br>See table 2. |
| 022 | 000 →All modes | Back flasher synchronization with the revolving light output flasher<br>000 →Not synchronize<br>001 →Synchronize |
| 023 | 000 →All modes | 001 →Close key 1 by key 4 and vice versa (better to deactivate the key 3 of emergency) |
| 024 | 002 →All modes | Number of tone or last tone number on the siren key (must be > or = to the content of the address 026) |

# Programming

## Programming code for unmarked keyboard (continue)

| ADDRESS | DATA BY DÉFAULT | DESCRIPTION |
|---|---|---|
| 025 | 000 →All modes | Time during which the camouflage key works without ignition. (By segment of 2 minutes) |
| 026 | 003 →All modes | Selection of the siren third tone number (see addresses 001 and 024) |
| 027 | 000 →All modes | Activate the amp arrows outputs in the siren # of (1 to 7) |
| 028 | 000 → Laval<br>001 →All other modes<br>004 → VIP<br>032 → Kerr | Revolving light outputs of the front alternative lights key.<br>See table 1. |
| 029 | 000 → Laval<br>002 →All other modes<br>064 → Kerr, VIP | Revolving lights outputs on the strobe key.<br>See table 1. |
| 030 | 132 →All other modes<br>000 → Laval and Kerr | Revolving lights outputs on the full camouflage key<br>See table 1. |
| 031 | 000 →Laval<br>008 →All other modes<br>016 → Kerr<br>128 → VIP | Revolving lights outputs on the emergency key<br>See table 1. |
| 032 | 000 →Laval<br>008 → Kerr<br>016 →All other modes | Revolving lights outputs on the horn transfer key<br>See table 1. |
| 033 | 000 →Laval<br>004 → Kerr<br>016 → VIP<br>032 →All other modes | Revolving lights outputs on the siren key<br>See table 1. |
| 034 | 000 →Laval, Kerr, VIP<br>064 →All other modes | Revolving lights outputs on the partial camouflage key<br>See table 1. |
| 035 | 000 →All modes | Revolving lights output configuration revolving lights output in the flashing mode<br>See table 1. |
| 036 | 002 →All modes | Flashing revolving lights outputs speed programmed in the flashing (see address 35)<br>Possible value: 0 à 255 |
| 037 | 000 →All modes | Configuration in the alternative outputs of the outputs programmed at the address 35<br>See table 1. |
| 038 | 000 →All modes | Keyboard time of functioning, in double minutes (X 2) without ignition when a key is activate. |
| 039 | 000 →All modes | « 2nd siren » key position to one tone only.<br>See table 2 for the key<br>Note: See address 50 for the tone choice. |

# Programming

## Programming code for unmarked keyboard (continue)

| ADDRESS | DATA BY DÉFAULT | DESCRIPTION |
|---|---|---|
| 040 | 000 →All modes | Delay in seconds between each beep in camouflage mode<br>Possible value possible : 0 to 255 |
| 041 | 002 →All modes | Number of alarm beeps in camouflage mode |
| 042 | 000 →All modes | Activate the key 0 in momentary mode and the key 9 in toggle mode |
| 043 | 000 →All  modes | Activate the revolving light output on the key momentary (key 0) |
| 044 | 000 →All modes | Activate the revolving light output on the key toggle (key 9) |
| 050 | 007 → Sure (Laval Siren) | Tone choice for the 2$^{nd}$ siren key :<br>001 → Wail<br>002 → Yelp<br>003 → Hi-low<br>004 → HyperYelp<br>005 → Hyper low<br>006 → Flute<br>007 → Sure (Laval Siren)<br>Note : See address 039 for the choice of key activating this tone. |
| 189 | 000 →All modes | Activate the camouflage function on IN_2<br>000 →Deactivate<br>001 →Activate |
| 192 | Indeterminate value i | Save the background lighting intensity value |
| 195 | 100 →All the modes | Value of low battery voltage |
| 196 | 155 →All modes | Value of high battery voltage |
| 204 | 004 →All modes | Speed of alternative lights<br>Possible Value : 0 to 255<br>(1 =faster) |
| 209 | 001 → VIP<br>000 →All other modes | Activate the revolving light output on the key « Top port » (see address 252) |
| 212 | 004 →All modes | Speed of back alternative lights<br>Possible value : 0 to 255<br>(1 =faster) |
| 213 | 000 →All modes | Choice of flute transfer only (001 = flute) |
| 214 | 001 →All modes | Trunk flashers activation on the emergency key<br>(001 →on the emergency key, 000 →at all time) |
| 215 | 001 → VIP<br>000 →All other modes | Activate a revolving light output on the key « front port » (see address 252) |
| 216 | 001 →All modes | Front camouflage relay activation<br>000 →With the camouflage key only<br>001 →With the camouflage and alternative keys.<br>002 →With the alternative key only.<br>003 and +→ Camouflage key only and the 2 fronts active alternative lights output without flashing |

# Programming

## Programming code for unmarked keyboard (continue)

| ADDRESS | DATA BY DÉFAULT | DESCRIPTION |
|---------|-----------------|-------------|
| 218 | Indeterminate Value | Memorizing the volume |
| 219 | 250 →All modes | Time before the detection of low battery. |
| 220 | 036 | P.A. maximum volume<br>Possible Value 0 to 255 |
| 222 | 000 | Programming the output no. 28.<br>0 →Gun lock<br>1 →Camera  interface (activate for siren)<br>2 →Activate on the camouflage key and the front alternative light key<br>3 →Activate on the camouflage key<br>4 →Activate on the alternative lights<br>5 →Relay not activate<br>6 →Timer (address 247 for time base) |
| 223 | 000 → All other modes<br>001 → Laval, Kerr | Adding the  flute transfer on the horn<br>000 →Siren only<br>001 →Siren and flute |
| 224 | Reserved | Reserved |
| 225 | Reserved | Reserved |
| 226 | Reserved | Reserved |
| 227 | 000 →All modes | Allowing changing the sequence of alternative lights flashing.<br>This address is combined with the addresses 228 à 232.<br>000 →Standard flashing<br>001 →Customized flashing |
| 228 | 002 →All modes | Number of left light flashing.<br>(227= 001)<br>Possible value : 0 to 255 |
| 229 | 002 →All modes | Number of right light flashing. (227= 001)<br>Possible value : 0 to 255 |
| 230 | 002 →All modes | Number of both lights flashing. (227= 001)<br>Possible value: 0 to 255 |
| 231 | 003 →All modes | Number of alternation between the left and right light. 227= 001)<br>Possible value: 0 to 255 |
| 232 | 002 →All modes | Number of repetition of both lights flashing (227= 001)<br>Possible value : 0 to 255 |
| 233 | Reserved | Reserved |
| 234 | Reserved | Reserved |
| 235 | Reserved | Reserved |
| 236 | 000 →All modes | Programming the interlock<br>(001 = activate the interlock)<br>*** **once activate it can't be deactivated** *** |

# Programming

## Programming code for unmarked keyboard (continue)

| ADDRESS | DATA BY DÉFAULT | DESCRIPTION |
|---|---|---|
| 237 | 000 → Kerr industry<br>001 → All other modes | 001 =Close the camouflage key on the light input |
| 238 | Reserved | Reserved |
| 239 | Reserved | Reserved |
| 240 | Reserved | Reserved |
| 241 | Reserved | Reserved |
| 242 | 000 → All other modes<br>004 → CGER<br>016 → Laval | Back camouflage functions activation back camouflage functions on the keyboard keys.<br>See table 2.<br>(Doesn't work on the keys 0 and 9) |
| 243 | 000 → All modes | Number of alternative cycles s 50-50 when 227 = 1 |
| 244 | 000 → VIP, Kerr<br>004 → CGER<br>007 → Laval | Deactivate the following functions IN1.<br>001 → Revolving light outputs selected at 245.<br>002 → Trunk flasher.<br>004 → Back camouflage. |
| 245 | 000 → All other modes<br>112 → Laval | Revolving lights output selection to deactivate by input IN1.<br>See tableau 1. |
| 249 | 000 → All modes | 001 = Alarm during the ignition.<br>To activate or deactivate the alarm, without the key press simultaneously on the keys 1 and 4. |
| 250 | 001 → All modes | Led flashes on the 2$^{nd}$ pressure of the horn transfer key when it is program into 1 in the address.<br>0 → Doesn't flashes<br>1 → Flashes |
| 251 | 000 → All other modes<br>064 → VIP | The address 002 must be programmed into 1.<br>000 → Deactivated<br>064 → Activate Top port on the key7. |
| 252 | 000 → All other modes<br>032 → VIP | The address 002 must be programmed into 1.<br>000 → Deactivated<br>032 → Activate Front port on the key 8. |
| 253 | Reserved | Reserved |
| 254 | 000 → All modes | Freeze all keyboard keys except the key 1.<br>000 → Functional key<br>001 → Frozen key |

# Programming

| Data | Outputs |
|------|---------|
| 1 | Out 8 |
| 2 | Out 7 |
| 4 | Out 6 |
| 8 | Out 5 |
| 16 | Out 4 |
| 32 | Out 3 |
| 64 | Out 2 |
| 128 | Out 1 |

TABLE 1

| Data | Outputs |
|------|---------|
| 1 | Key 6 |
| 2 | Key 3 |
| 4 | Key 2 |
| 8 | Key 1 |
| 16 | Key 4 |
| 32 | Key 0 |
| 64 | Key 9 |
| 128 | Key 5 |

TABLE 2

## Interlock functioning principle:

The interlock is a function that activates the amplifier position 12 when an access code of four digits is entered on the keyboard. The amplifier position 12 must command a relay which turns off the vehicle starter. This way, when you turn off the vehicle contact you have 30 seconds to enter the access code to activate the interlock so it will be active on the next vehicle start up. If before starting up you must enter an access code, the interlock function will be deactivated and the vehicle will be able to restart. To deactivate this function you only have to put back the vehicle contact key and enter the access code before starting up. If you disconnect and reconnect the keyboard, the interlock function will be activated automatically even if the access code to start it is not entered.

# Programming

## Revolving lights outputs programming on the keyboard keys. (Out 1 to Out 8)

- **Addresses 028 to 050 :For the code of a indentified system**
- **Addresses 028 to 037 : For the code of a unmarked system**

The system ZTEP-100™ (siren module control) from Zone Technologie Électronique Inc. offers the flexibility of programming one or many outputs on the same revolving light key (you can also activate all the revolving lights outputs on the same key). Depending on the installation made, each key is associated to an address included between 028 and 050 of an indentified system and between 028 and 037 for an unmarked system. Only one address is associated to each key except in the following cases:

- **Identified system:**
  3 addresses are associated with the revolving key. (An address for each revolving light key pressure). Furthermore, the address 032 is associated to the low intensity mode which allow you to decide which output (s) will remain active when the contact key is remove from the vehicle in emergency mode.
- **Unmarked system:**
  2 addresses are associated on the camouflage key, (An address for a partial camouflage and another for the full camouflage.
  Furthermore, the address 035 allows you to configure the flashing outputs. The speed of flashes is program to the address 036 and

the inversion of an output compare to another at the address 037.

## Identification of revolving lights outputs on the control module

```
Back flasher output ………….      = 001
Output on the driver side …………..002
Output on the passenger side …  = 004
 Interception Output1……………     008
Interception Output2        …………016
 Intersection Output ………………..  032
 Exterior rotary output ……….....   064
Interior rotary output…………….. = 128
```

For programming the output on a key, you must understand how to activate the output. Each output corresponds to a number represented in the previous table. Also when you wish to activate an output on one key, you must enter the number associated to this output in the address corresponding to this key.

## Let's proceed to programming examples of an identified system:

Example 1: You wish to activate the exterior rotary output with the alley light
- From the list of identified systems programming code, find the address corresponding to the alley light (the address is 039), then find the number corresponding to the exterior rotary output in the previous list (the number is064). You must then program the le data 064 to the address 039.
- ➢ **Important: In programming mode, the address must always be entered before the data.**

# Programming

**Note:** In the case that you wish to activate more than one output on the same key, you must add the numbers corresponding to the desired outputs.

Example 2: If you wish to program on the revolving light key 2$^{nd}$ pressure, the exterior rotary outputs, the interior rotary and the revolving light back flasher.
- With the identified systems programming codes list help, find the address corresponding to the revolving light key 2$^{nd}$ pressure (the address is 030), then add the desired revolving lights outputs in the previous outputs identification list (128+064+001=193). You should therefore program 193 (data) to the address 030.

Example 3: You wish that the revolving light back flashers remain activated when you remove the vehicle contact key and that an emergency function should be activated.
- With the codes list help, find the address corresponding to the low intensity mode (the address is 032). In the previous table, find the number corresponding to the back flasher. You must program the data 001 at the address 032.

## Keyboard keys and their warning light activation and deactivation

First, you must know that 4 addresses are associated with the keyboard keys masking, which are 198 to 201

The keyboard includes 24 keys (since the central keys and the emergency key are in fact compose of 2 different keys). Of these keys, 4

groups are formed in association with the respective addresses and are defined as follow:

- **Address 198**
  Revolving light…………………………. = 6
  Back flasher ……………………...    = 9
  Antitheft or bar arrow ……………….. = 32
  Gun lock or left arrow ……    = 16
- **Address 199**
  On/Off siren…………………………..  = 2
  Siren choice ……………………= 4
  Interlock or double arrow ……    = 8
  Air flute or right arrow ……………   = 16
  General closing …………………...    = 1
  Passenger side ……………………… = 32
- **Address 200**
  Emergency………………………….    = 33
  Increase volume ……………………… = 2
  Decrease volume ……………………... = 4
  Driver side……………………….    = 8
  Horn transfer ……………………    = 16
- **Address 201**
  Front alternative lights ……………… = 9
  Camouflage…………………………… = 6
  Interception…………………………… = 48

Example 4: If you wish to deactivate the camouflage, interception, passenger side and horn transfer keys.
- You should add up the numbers corresponding to the keys which should worked, so at the address 198 program 063 (6+9+16+32=63), to the address 199 program 031 (1+2+4+8+16=31), at the address 200 program (2+4+8+33=47), and at the address 201 program 009.

# Programming

## Leds intensity modification in the night mode

The warning lights (leds), used in the keyboard ZTEPC-100™ from Zone Technologie Électronique Inc. are at high intensity and can be too powerful when the vehicle passenger compartment is in a dark environment. When the vehicle position lights are activated (control module position #9), the keyboard lightning is activate and the leds intensity decrease. This intensity is programmable (between 000 and 255). Take note that 255 correspond to a weak light intensity and that 000, to a maximal light intensity (equivalent to the day mode).

## Arrow key or auxiliary key (Address 203

It is possible to program the numeric keys 3, 4, 7 and 8 (small characters below the keys) so it controls either a scrolling arrow or some accessories as a gun lock, interlock, antitheft or air flutes. To control an arrow, program 001 to the address 203. To control some auxiliary accessories program 000 to the address 203.

## Scrolling arrow number of outputs (Address 206)

The control module can control an arrow with 5 lamps (identical to 8 lamps) or with 7 lamps. Programming 000 to the address 206 will activate the module in the 7 outputs mode and 001 will activate 5 outputs.

## Number of pressure on the revolving key (address 208)

The revolving light key has 2 types of functioning:

- **1st Type :**(Program 000 to the address 208)
  1st Pressure: 3 warning lights and 3 revolving light outputs gets activate
  2nd Pressure: 2 warning lights and one output gets activate
- **2hd Type :**( Program. 001 to the address 208)
  1st Pressure: 1 warning light and 1 output gets activate
  2nd Pressure: 2 warning lights and 2 outputs get activate
  3rd Pressure: 3 warning lights and 3 warning lights outputs get activate

## The following examples are as much for an unmarked installation as an identified installation

## Place the revolving light in low intensity mode during low battery detection (Address 215)

As previously describes, the low intensity mode function as for function to decrease the power demand if the revolving light when the contact key is remove from the vehicle and that an emergency mode is activate. In this case, the control system closes all revolving light functions related to the module except the ones which have been previously programmed. (Address 032).
The function related to the address 215 allows the same result when the vehicle battery is low (less than 10.5V). To activate this function, program 001 to the address 215 and to deactivate it program 000.  .

# Programming

## Back alternative lights command (Address 214)

There is 3 ways to activate the back alternative lights (outputs positions #31 and #32).
- By the emergency key
  (Program 001 to the address 214)
- By the back flasher key
  (Program 002 at the address 214)
- By activating the contact key
  (Program 000 to the address 214)

Don't forget that the alternative lights will be active only if the back trunk is opened. (Command on the positions #29 and #30)

## Daylights closing activation when the front alternative lights are activated (Address 216)

This function allow for a more visual impact on the front alternative lights, because when we close the day lights in the alternative lights mode, the road lights will waver between a shut off lamps and one fully light up. The difference will be less radical if the alternative lights would waver between a light up lamp in daylight mode and a lamp fully light up. To activate the daylights closure relay, program 001 to the address 216 and to deactivate it program 000 to this address.

## P/A maximal power limit (address 220)

The control module vocal amplifier has a maximum power of about 35 Watts. For the commanding posts, it is possible to need power higher than this one. You can increase or decrease the vocal amplifier power by modifying the value at the address 220.
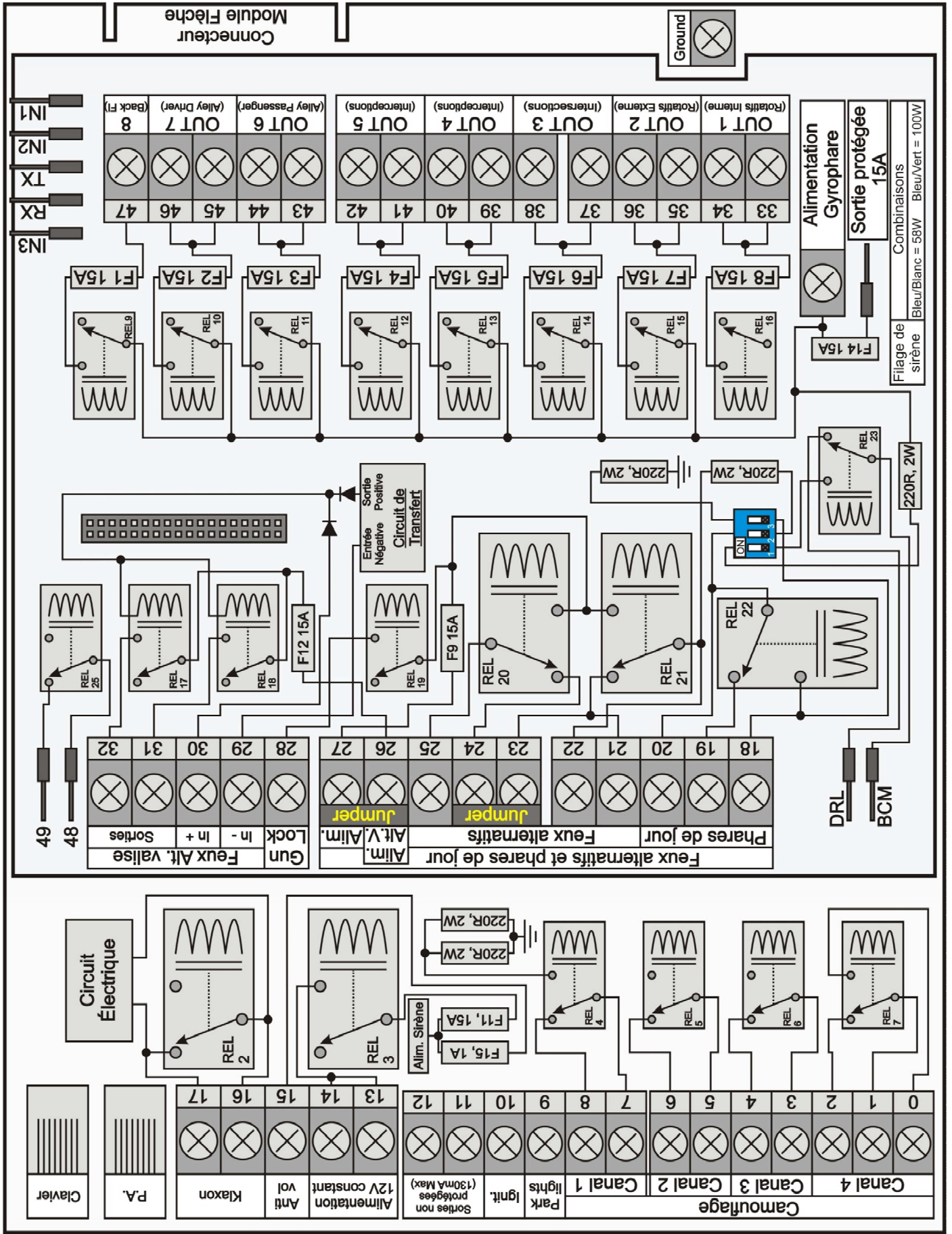
## Delay before allowing the keyboard to work after low battery detection (Address 219)

As explained in the previous pages, the keyboard has a function of low or high battery detection. We must clearly understand that when a vehicle battery begins to be low and the system detects it (low intensity mode function 215), the battery voltage goes back up to almost a normal level as soon as the system decrease the power that it was demanding (by shutting off the revolving lights functions by example). To make sure that the vehicle battery gets recharged before the system reactivate his deactivated functions by the low intensity mode, a inactivate delay was intended. This delay is fixed to 30 seconds by default (030 to the address 219) but can be changed by modifying the 219 address value.

## System reset (address 255)

If you have programmed one or some bad codes or if you have forgotten which code (s) has (have) been program into the system. You can program again the system default setting by entering the data 255 to the address 255. Then, cut the alimentation or disconnect the keyboard during 10 seconds and reconnect it again. Wait 2 second and all the default settings will have been program again.

# Configuration interne AMPLI ZONE version 2

# Branchements AMPLI ZONE version 2



Filage de sirène
Vert + Bleu = 100 Watts
Blanc + Bleu = 58 Watts

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| IN1 | 8 (Back Fl) | OUT 7 (Alley Driver) | OUT 6 (Alley Passenger) | OUT 5 (Interceptions) | OUT 4 (Interceptions) | OUT 3 (Intersections) | OUT 2 (Rotatifs Externe) | OUT 1 (Rotatifs Interne) |
| IN2 | | | | | | | | |
| TX | | | | | | | | |
| RX | | | | | | | | |
| IN3 | 47 46 45 | 44 43 | 42 41 40 39 | 38 37 | 36 35 34 | 33 | | |

Alimentation du gyrophare:
Calibrer le fil et le fusible selon la puissance requise

DRL    BCM

49 48    32 31 30 29 28    27 26 25 24 23    22 21 20 19 18

Jumper    Jumper

17 16 15 14 13    12 11 10 9 8 7 6 5 4 3 2 1 0

Jonction 8-8

Coupez ici

+12V Batterie

Ignition — 3A

Feux de position

Commande des Lumières Positive

20A

60 A

Batterie

# NOTES

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