RX808-LCD

80 CHANNELS WIRELESS RECEIVER WITH LCD DISPLAY

DUEVI
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INSTALLATION AND USE MANUAL

WARNINGS

Installation:

- This device must be installed only by qualified technician
- Installer must follow current regulations
- The manufacturer shall not be liable for any improper use of the product, incorrect installation or failure to comply with instructions of this manual and the law regarding electrical systems
- Any intervention carried out by not qualified technician can damage the device

Installation environment:

- Do not install the control panel in very humid or warm environment, near to baths, sinks, etc. Do not install the device outdoor
- For a solid and reliable installation, make sure the installation wall surface is flat
- Fix the receiver to a height that allows easy access the front panel
- The receiver is protected against tampering. Anyway, it is recommended to install the device within a detection zone of the alarm system
- Do not install the receiver in a shielded environment or near other receivers/transmitters with the same working frequency. Before fix the device and peripherals run some tests to verify the system and ensure a proper behaviour and coverage of wireless sensors
- Pay attention to radio emitters near the installation. In this case run tests of correct working for more days

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1.   RX808-LCD

RX808-LCD is an high performance receiver and full of functions, designed for professional use.
This is a radio receiver with 80 radio zones combined to 8 relay outputs (groups of 10 radio zones for each output).
Each radio zone hosts one detector.

When RX808-LCD receives the alarm radio code from a zone, it activates the combined relay output (N.C. type). Each radio sensor is completely recognized by receiver (included opened/closed door in compatible sensors).
The alarm relay outputs (**NC1-C1**, ..., **NC8-C8**) can be connected to wired zone inputs of a control panel to expand the alarm system with wireless detectors, to activate an acoustic or light warning, or to start phone call via PSTN or GSM diallers.

RX808-LCD can store up to 9 remote controls. It is possible to:
- Arm, partial arm and disarm (wired connection) the control panel
- Arm the receiver in TOTAL (all the outputs enabled) or PARTIAL (only outputs 1 ÷ 6 enabled) mode

The receiver can work as MASTER or SLAVE of the alarm system to which is connected:
- MASTER: RX808-LCD is enabled (TOTAL and PARTIAL arming) and disabled (DISARMED) using the remote controls. Connect the terminals **COM**/**NC**/**NA** to the wired arming input of the control panel, the alarm system is armed and disarmed with the receiver. On display is shown the status and – during the armed status – the alarms from radio zones are logged
- SLAVE: RX808-LCD receives the armed (TOTAL, no partials) and disarmed status of control panel through wired connection (input **RST**, the status is shown on display). During armed status the alarms from radio zones are logged

RX808 shows on display:
- Different arming status (TOTAL, PARTIAL and DISARMED) of receiver and/or control panel
- Alarm memory of radio zones with events log
- Battery status of radio zones
- Missed supervision of radio zones

RX808-LCD has alarm relay outputs for radio zones (**NC1-C1**, ..., **NC8-C8**), and other outputs for:
- ARMING/DISARMING (**COM-NC-NA**): output driven by remote controls, for connection to arming/disarming input of the control panel
- TAMPER (**NCT-CT**): to monitor the cover tampering or tamper alarm from radio zones
- PROGRAMMABLE OUTPUT (**P**): programmable output for PARTIAL ARMING or SUPERVISION signalling
- LOW BATTERY (**LWB**): to alert the low battery status of radio zones or radio-blinding

2. TECHNICAL

|	
RADIO ZONES	80 radio zones – Each zone can store one detector
REMOTE CONTROLS	9 remote controls for arming/disarming the receiver and drive the arming output (**COM-NC-NA**)
ZONE ALARM OUTPUTS	8 relay outputs for alarm from radio zones (not from remote controls) Each output is combined to one group of 10 radio zones (eight groups) Relay data: 24 V ⎓ / 500 mA Activation type: impulsive, aperture time > 2 seconds Warning: the outputs always change status when an alarm from radio zones is received, even if the receiver is disarmed (only in PARTIAL arming the radio zones 61 ÷ 80 are disabled and thus the outputs 7 and 8 are disabled too)
ARMING OUTPUT	1 relay output (dry contact) for arming/disarming command from remote controls Relay data: 24 V ⎓ / 500 mA Activation type: bistable (> 2 s) or impulsive
TAMPER OUTPUT	1 relay output for radio-blinding, sensor masking, wired and radio tamper Relay data: 24 V ⎓ / 500 mA
LWB OUTPUT	1 OpenCollector output for low battery of radio zones (zone showed on display) or radio-blinding
P OUTPUT	1 OpenCollector output for Supervision or Partial arming of receiver
LED	1 OpenCollector output for armed status of receiver (TOTAL or PARTIAL)
DISPLAY	• Programming menu • Zones, arming status and alarm memory • Opened door (only for radio detectors compatible with Opened Doors function)
POWER	9 ÷ 14 V ⎓ (typical: 12 V ⎓) / MAX 60 mA **WARNING > The device must be supplied by low voltage power source (SELV)**
RADIO RANGE	100 m open field
FREQUENCY	433,92 MHz
RADIO CODE	48 bit
DIMENSION	250 x 150 x 40 mm
CASE	Plastic

COMPATIBILITY	Compatible with:
	• All AN detectors
	    The receiver visualize on display detailed information from special radio sensors:
	    o CTSR: on-board reed/internal contact, secondary contact, roller, shock sensor
	    o MINI-C: on-board reed/internal contact, secondary contact, roller, shock sensor
	    o MOSKITO-R: right side, left side, center, elusion
	• Remote controls: TXS/M, TXS4, TX2C
	• Antimasking signalling from sensors: MOSKITO, VIPER, VIPER-DT and KAPTURE
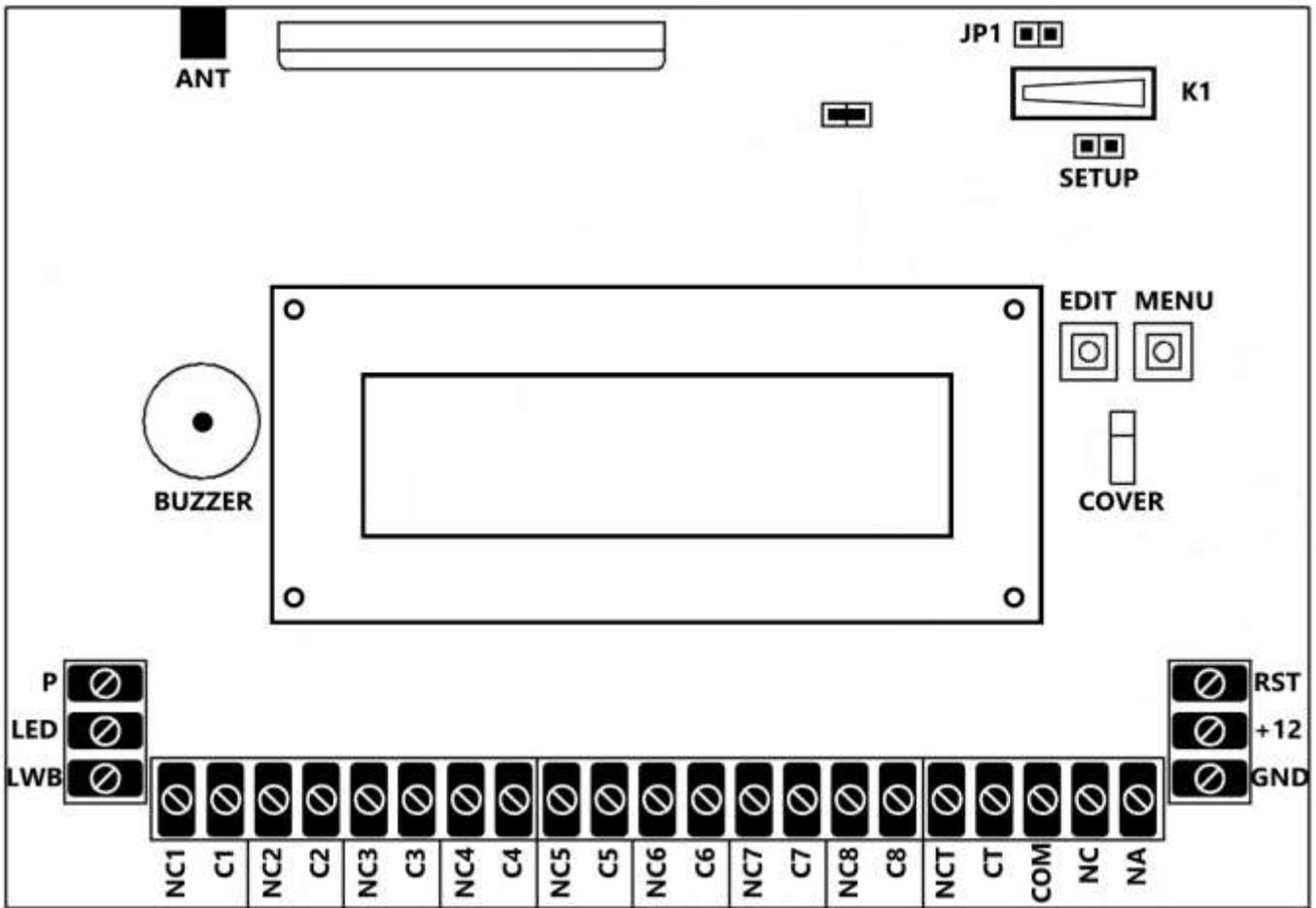
JUMPERS

SETUP	PROGRAMMING	CLOSED	Programming mode
		OPENED	Normal working
JP1	TAMPER	CLOSED	Tamper disabled
		OPENED	Tamper enabled

TERMINALS

ANT	Antenna		
RST	Input for TOTAL arming (no PARTIAL) and disarming the receiver	Connect this input to Arming Status output (+INS) of the control panel (0 V = system disarmed, +12 V $=$ system armed)	
+12	Power	Positive pole +12 V $=$	MAX 60 mA
GND	Power	Negative pole 0 V	
COVER	Connector for cover panel		
P	Partial arming/Supervision	Output at +12V when the receiver is armed in Partial	
LED	Receiver armed	Output at +12V when the receiver is armed in Total	
LWB	Detector Low Battery Radio Blinding	Open-collector output (to negative when signalling low battery or radio blinding)	
K1	Tamper		
EDIT	Internal "EDIT" button		
MENU	Internal "MENU" button		
BUZZER	Internal speaker		

RELAY OUTPUTS

NC1 **C1**	(Normally Closed) (Common)	Relay output 1 Active when alarm from radio zones 1 ÷ 10	Total / Partial Delayed zones
NC2 **C2**	(Normally Closed) (Common)	Relay output 2 Active when alarm from radio zones 11 ÷ 20	Total + Partial
NC3 **C3**	(Normally Closed) (Common)	Relay output 3 Active when alarm from radio zones 21 ÷ 30	Total + Partial
NC4 **C4**	(Normally Closed) (Common)	Relay output 4 Active when alarm from radio zones 31 ÷ 40	Total + Partial
NC5 **C5**	(Normally Closed) (Common)	Relay output 5 Active when alarm from radio zones 41 ÷ 50	Total + Partial
NC6 **C6**	(Normally Closed) (Common)	Relay output 6 Active when alarm from radio zones 51 ÷ 60	Total + Partial
NC7 **C7**	(Normally Closed) (Common)	Relay output 7 Active when alarm from radio zones 61 ÷ 70	Total
NC8 **C8**	(Normally Closed) (Common)	Relay output 8 Active when alarm from radio zones 71 ÷ 80	Total
NCT **CT**	(Normally Closed) (Common)	TAMPER relay output Active in case of Radio-blinding, Sensor Masking and Tamper (wired/radio)	
COM **NC** **NA**	(Common) (Normalmente Closed) (Normally Opened)	Dry contact relay output 10. Programmable: Bi-stable / Impulsive (remote control driven) Connect the receiver to arming wired input of the control panel to arm/disarm it via RX808-LCD	

3.   FRONT PANEL

Display
Data visualization

EDIT
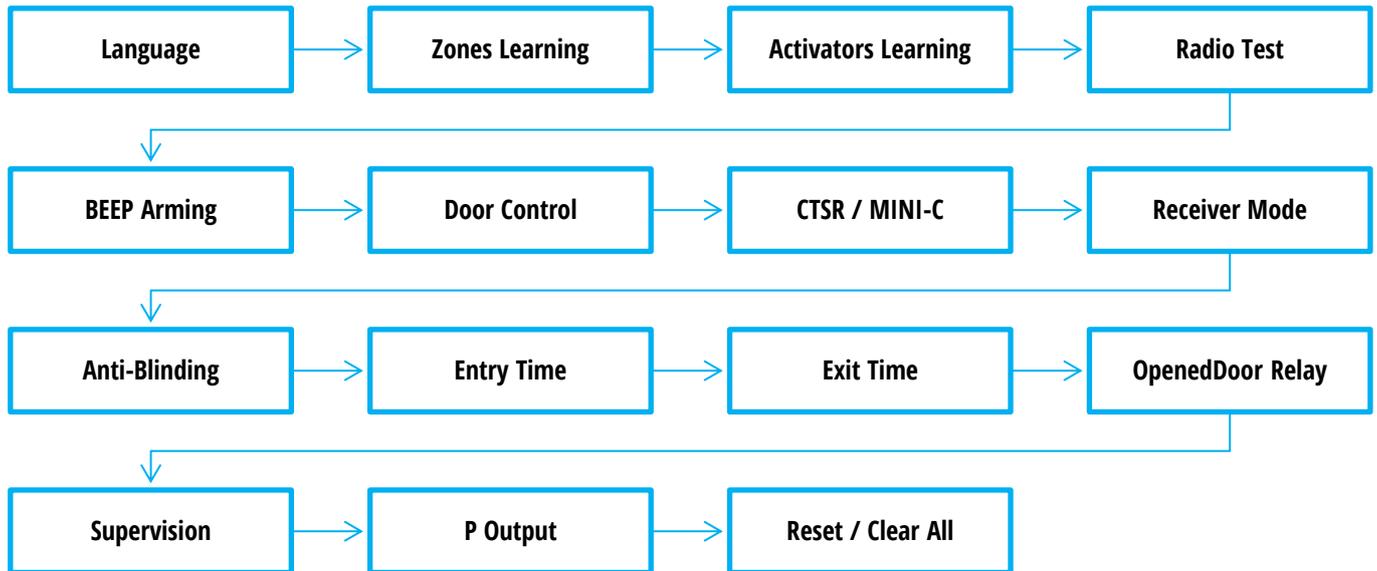Select / change option
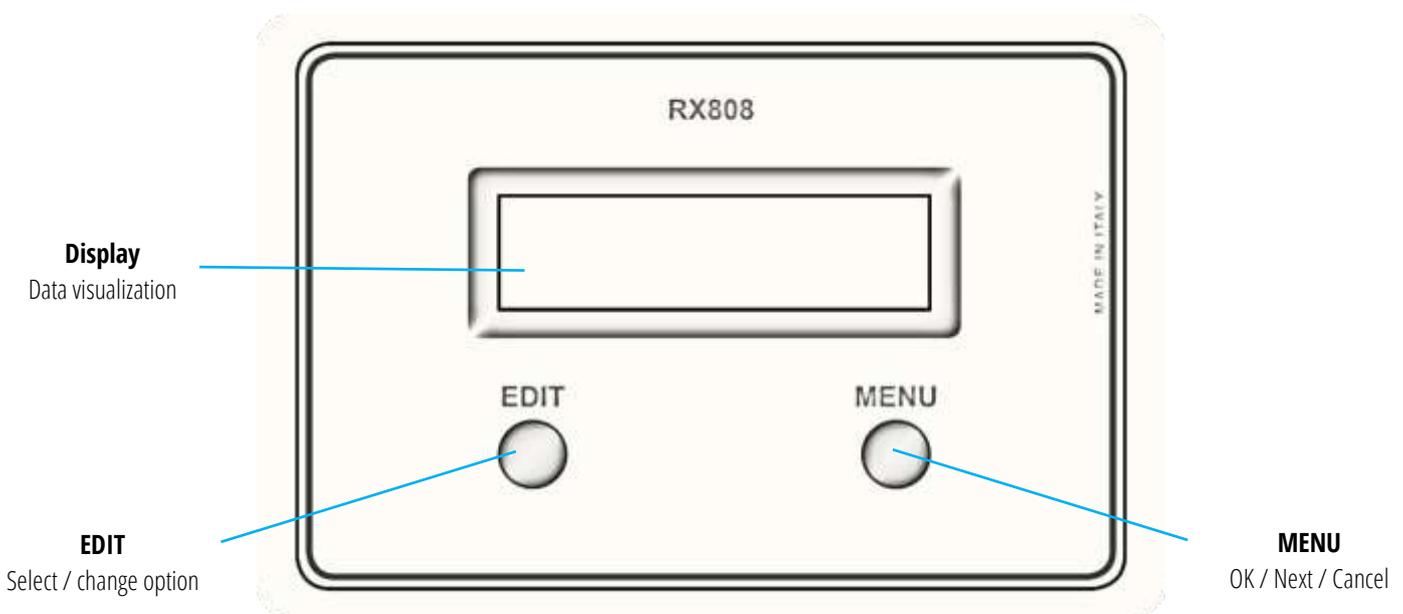
MENU
OK / Next / Cancel

RX808-LCD front panel

4. PROGRAMMING MENU

To enter in programming menu:
1. Open the receiver
2. With receiver powered, close the jumper **SETUP**
3. The receiver emits two "beep" and enter immediately in programming menu
4. Use the **MENU** button to scroll the menu items, the **EDIT** button to change settings
5. When finished to program, open the **SETUP** jumper: the receiver emits two "beep" and is ready to work with new settings

Follow the programming menu item list:

Language	→	Zones Learning	→	Activators Learning	→	Radio Test
BEEP Arming	→	**Door Control**	→	**CTSR / MINI-C**	→	**Receiver Mode**
Anti-Blinding	→	**Entry Time**	→	**Exit Time**	→	**OpenedDoor Relay**
Supervision	→	**P Output**	→	**Reset / Clear All**		

LANGUAGE
Set the language of receiver. Change has immediate effect.

ZONES LEARNING
Learn and delete the radio zones. Up to 80 radio zones.
See dedicated paragraph.

ACTIVATORS LEARNING
Learn and delete the remote controls. Up to 9 remote controls.
See dedicated paragraph.

RADIO TEST
Run the test to verify the radio range of receiver:
1. Press the **EDIT** button
2. On display appears "Radio Test" and the receiver waits for radio codes from zones
3. Make the radio sensors (learned on receiver) transmit their alarm codes
4. If the radio code is received, on display appears the radio zone number (and the radio code detail) and two "beep" are emitted
5. At the end of the test, switch to next function by pressing the **MENU** button or exit from programming

BEEP ARMING
Enable the acoustic alerts at arming (one "beep") and disarming (two "beep") of the receiver.

DOOR CONTROL

This function advice about opened zones at arming.

The receiver emits a special acoustic alert. At this point it is possible to:

1. Confirm: press the arm button on remote control or leave the positive signal on **RST** input or leave the alert time ends: the opened zones will be bypassed

2. Disarm: press the disarm button on remote control or remove the positive signal on **RST** input: the display shows "Opened Doors". Press the **EDIT** button, the display shows the radio zone which is opened. In this way it is possible to close the zone and repeat the arm command without bypass this zone.

3. During the opened door signalling, if the opened zone is known, just close it: in this way it is not necessary to press any button or force the arming

CTSR AND MINI-C

The CTSR and MINI-C sensors transmit the opened and closed status of their contacts: ON-BOARD REED and EXTERNAL CONTACT.

Depending on the installation (maybe are used both or just one contact) the Opened-Doors advice from these sensors must be set as:

- SINGLE: advice IF the ON-BOARD REED is opened (the EXTERNAL CONTACT is ignored)
- DOUBLE: advice IF both ON-BOARD REED and EXTERNAL CONTACT are opened (if one of these is closed then no advice)

RECEIVER MODE (IMPULSIVE RELAY)

Set the activation mode of the receiver: MASTER or SLAVE.

Change the activation mode of the ARMING relay (output **COM-NC-NA**) combined to the remote controls.

- **MASTER – IMPLUSIVE RELAY = NO**

  The receiver activation depends on remote controls, with two activation modes:
    - **TOTAL**: all the radio zones are active (all the alarm relay outputs are active)
    - **PARTIAL**: only the radio zones 1 ÷ 60 are active, the radio zones 61 ÷ 80 are bypassed (so the alarm relay outputs 7 and 8 stay always closed)

  The relay output **COM-NC-NA** change its status in **bistable** mode: it is active when the receiver is armed (TOTAL or PARTIAL), at rest when the receiver is DISARMED.

  Connect the output **COM-NC-NA** of the receiver to the wired arming input of the control panel, the panel will follow the arming/disarming status of the receiver (MASTER).

  If the output **P** is set as "Partial Arming", it is possible to use this output to partially arm the control panel.

  In this mode the receiver can be also armed (only in TOTAL mode) and disarmed by control panel, connecting the arming status output to the input **RST**.

  When the **RST** input receives a positive signal from control panel (arming), the receiver mantains the actual arming status from remote control (TOTAL or PARTIAL). When the control panel removes the positive signal to the **RST** input (disarming), the receiver will disarm.

- **SLAVE – IMPULSIVE RELAY = YES**

  The receiver is activated only via input **RST**.

  Connect the bi-stable input **RST** of the receiver to the wired arming status output of the control panel: the receiver (SLAVE) will be activated (only TOTAL) or disarmed from control panel.

  The relay output **COM-NC-NA** change in **impulsive** mode: active for 2 seconds after any command of a remote control.

  Connect the output **COM-NC-NA** of the receiver to the wired arming input of the control panel; the panel receives a pulse each time a remote control sends a command: it is possible to arm, partially arm and disarm the system.

  Note: using the remote control, the receiver switches the output **COM-NC-NA** but does not change its status (armed or disarmed) until a status change of the input **RST**.

ANTI-BLINDING

Alert function in case of disturbing radio transmission (radio blinding attempts).

In case of blinding, the receiver alerts with a "Blinding" message on display and activating the output **LWB**.

ENTRY TIME

Delay time before consider alarm after – at receiver armed – a violation of the zones 1 ÷ 10.

If – after this time – the receiver is not disarmed, then starts alarm.

Values:

- 00 seconds (instantaneous zones, no delay)
- 10 seconds
- 20 seconds
- 30 seconds

EXIT TIME

Time available to leave the protected zone without alarms after the arming command to the receiver. During this time the receiver does not consider alarm if the radio zones are violated.

Values:

- 5 seconds
- 60 seconds

RELAY MODE FOR OPENED DOOR (P.A.INS = YES / NO)

Set the behaviour of zone alarm relay output when – at the arming of the receiver – a zone is opened. This function can be used only if the "Door Control" option is enabled.

- **FOLLOW ZONE (P.A.INS = YES)**: maintain the zone relay output opened until the zone stays opened
- **NORMAL (P.A.INS = NO)**: the zone relay output is impulsive. The relay temporary opens then closes after some seconds (even if the zone stays opened). At the end of Opened Door signalization the relay closes

In both cases, giving a +12 V on **RESET** input, the zone relay opens to alert that there is a opened door. After some seconds the zone relay output closes bypassing the zone.

SUPERVISION

Max time before consider the radio zone as "missing". Each time the radio zone sends any radio code, the receiver restart the countdown.

Values:

- 4 hours
- 8 hours
- 12 hours
- NO (Supervision off)

P OUTPUT

Set the behaviour of the programmable **P** output. The output switches for these events:

- Partial Arming
- Missed Supervision

> **BEFORE PROCEED WITH THE DEVICE PROGRAMMING, IT IS RECOMMENDED TO PERFORM THE FOLLOWING STEPS IN ORDER TO ERASE THE MEMORY AND ERASE ANY FACTORY TEST SETTING.**

These procedure allows to delete all the radio zones and remote controls stored in receiver.

- Close the jumper **SETUP** to open Programming Menu
- Press the **MENU** button until the "Clear All" option on display
- Press and hold the **EDIT** button until some "beep" are emitted and the **LWB** output switches: the memory is erased
- Wait some seconds: the receiver reboot
- After the memory cleaning, switch to next function by pressing the **MENU** button or exit from programming opening the jumper **SETUP**.

5. ZONE MANAGEMENT (SENSORS)

The receiver can store sensors in its zones by two different ways:
- "AN" mode (factory mode): for devices models "with AN"
- "by detection" mode: for devices without "AN" function (old devices)

To switch from one learning mode to other:
- Enter in "Learning" menu (Programming Menu)
- Hold down the **MENU** button for at least 10 seconds until appears/disappears the "✱" symbol as in figure:

```
Zone Learning
Zone        01
```
"AN" mode

```
Zone Learning *
Zone        01
```
"By detection" mode

"AN" LEARNING MODE

| THIS MODE IS FOR "AN" LEARNING ONLY

1. Enter in programming menu (jumper **SETUP** closed) and select "Zone Learning"
2. Select the memory position to use with **EDIT** button (by holding the button, the memory position increase quickly):

```
Zone Learning
Sensor      01
```
EDIT →
```
Zone Learning
Sensor      02
```

3. After some seconds, beside to the radio zone number appears the "_" listening symbol: the receiver is waiting for a radio code from radio sensor.

```
Zone Learning
Sensor      02 _
```

If appears the "X" symbol after the radio zone number, it means that the memory position is already used. It is possible to overwrite or delete it (see next paragraph)

4. On sensor, enable and press the **TAMPER** switch (AN learning)
5. When the radio code is received, on receiver display appears the blinking "X" symbol (instead "_"): the receiver is processing the code. If it is a valid code the remote control is stored, the "X" symbol stays solid:

```
Zone Learning
Sensor      02 X
```

The sensor is not stored if:
- the radio code is NOT an AN learning code (example: alarm code, tamper code...)
- the radio code is already stored in other memory position
- it is not a valid radio code (example: it is a remote control radio code...)

In case of error, some "beep" are emitted and the receiver wait for another radio code.

6. To learn other sensors, press the **EDIT** button to switch to another free memory position and repeat the previous steps.
   It is possible to store up to 80 sensors.
7. At the end of learning, switch to next function by pressing the **MENU** button or exit from programming opening the jumper **SETUP**.

"BY DETECTION" LEARNING MODE

▌ THIS MODE IS FOR "BY DETECTION" LEARNING ONLY (OLD DEVICES)

1. Enter in programming menu (jumper **SETUP** closed) and select "Zone Learning"
2. Select the memory position to use with **EDIT** button (by holding the button, the memory position increase quickly):

```
Zone Learning   *        EDIT        Zone Learning   *
Sensor       01      ───────►        Sensor       02
```

3. After some seconds, beside to the radio zone number appears the "_" listening symbol: the receiver is waiting for a radio code from radio sensor.

```
Zone Learning   *
Sensor       02 _
```
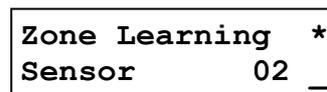
If appears the "X" symbol after the radio zone number, it means that the memory position is already used. It is possible to overwrite or delete it (see next paragraph)

4. Make a detection with the sensor to learn
5. When the radio code is received, on receiver display appears the blinking "X" symbol (instead "_"): the receiver is processing the code. If it is a valid code the remote control is stored, the "X" symbol stays solid:

```
Zone Learning   *
Sensor       02 X
```
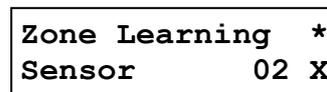
The sensor is not stored if:
- the radio code is an AN learning code
- the radio code is already stored in other memory position
- it is not a valid radio code (example: it is a remote control radio code...)

In case of error, some "beep" are emitted and the receiver wait for another radio code.

6. To learn other sensors, press the **EDIT** button to switch to another free memory position and repeat the previous steps.
   It is possible to store up to 80 sensors.
7. At the end of learning, switch to next function by pressing the **MENU** button or exit from programming opening the jumper **SETUP**.

DELETE A DETECTOR

To delete a radio zone, select it and hold down the **MENU** button for at least 5 seconds (less than 10 seconds):

```
Zone Learning          EDIT    long    Zone Learning
Sensor       02 X    ───────────►      Sensor       02
```

6. ACTIVATOR MANAGEMENT

LEARN AN ACTIVATOR

1. Enter in programming menu (jumper **SETUP** closed) and select "Learn. Activator"
2. Select the memory position using the **EDIT** button (hold down the button to increase quickly the memory position):

```
Learn. Activator          Learn. Activator
Remote        01    EDIT→  Remote        04
```

3. After some seconds, beside to the radio zone number appears the "_" listening symbol: the receiver is waiting for a radio code from remote control.
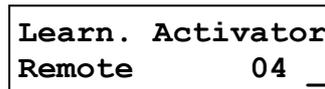
```
Learn. Activator
Remote        04 _
```

If appears the "X" symbol after the radio zone number, it means that the memory position is already used. It is possible to overwrite or delete it (see next paragraph)

4. Press any button on remote control
5. When the radio code is received, on receiver display appears the blinking "X" symbol (instead "_"): the receiver is processing the code. If it is a valid code the remote control is stored, the "X" symbol stays solid:

```
Learn. Activator
Remote        04 X
```
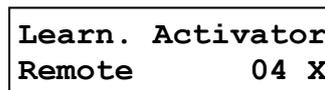
The remote control is not stored if:
- the radio code is already stored in other memory position
- it is not a valid radio code (example: it a sensor radio code...)

In case of error, some "beep" are emitted and the receiver wait for another radio code.

6. To learn other remote controls, press the **EDIT** button to switch to another free memory position and repeat the previous steps.
It is possible to store up to 9 remote controls.
7. At the end of learning, switch to next function by pressing the **MENU** button or exit from programming opening the jumper **SETUP**.

DELETE AN ACTIVATOR

To delete an activator, select it and hold down the **MENU** button for at least 5 seconds:

```
Learn. Activator    EDIT  long   Learn. Activator
Remote        04 X        →      Remote        04
```

7. ARMING AND DISARMING

It is possible to arm (activate) the receiver and the connected control panel, in two ways:

1. With remote controls: the receiver must be programmed in MASTER mode, the control panel must be connected to the output **COM-NC-NA**. It is possible to arm the receiver in TOTAL and PARTIAL mode

2. With wired bi-stable input **RST**: the receiver must be programmed in SLAVE mode and the input **RST** must be connected to the wired status output of the control panel:
   - +12 V: TOTAL arming
   - no +12 V: DISARMED

   It is possible to arm the receiver only in TOTAL mode

TOTAL ARMING

Press once the arming button (TOTAL) of a remote control.

The receiver emits a "beep" (if the "Beep Arming" function is enabled) to confirm the code is received.

On display appears:

```
TOTAL arming
```

PARTIAL ARMING

Press twice the arming button or once the partial arming button (if available) on a TXS4 remote control.

The receiver emits a "beep" each time it receives the arming button code as confirm.

On display appears:

```
PART. armed
```

When in partial arming, the zones from 61 to 80 are bypassed (also the combined relays 7 and 8).

DISARMING

The receiver can be disarmed pressing once the disarming button on remote control, at any arming status (TOTAL or PARTIAL).

The reciver emits two "beep" and the display shows "Disarmed" (if no alarm memory):
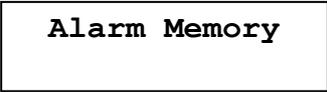
```
Disarmed
```

In case of alarms during arming, at disarming the receiver alerts with some "beep" and the display shows "Alarm Memory":

```
Alarm Memory
```

8.   ALARM MEMORY (EVENTS LOG)

READ THE EVENTS LOG
If – during the arming of the receiver – an alarm happens, at disarming some quick "beep" are emitted to alert about the alarm condition.
The display shows "Alarm Memory":

```
┌─────────────────────────────┐
│      Alarm Memory           │
│                             │
└─────────────────────────────┘
```

In case of alarm the receiver saves the violated radio zone.

The receiver can store **up to twenty alarm events** (in chronological order, from most recent to the oldest) in a circular memory: when the memory is full, the last event overwrite the oldest one.
To viualize the events just, *at receiver disarmed*, press the **EDIT** button more times.
Each pression on **EDIT** button shows on display – chronologically – the violated radio zones which caused alarm: from most recent to the oldest. When – after the last event – the **EDIT** button is pressed again, the receiver emits some "beep".

To exit from Events Log press the **MENU** button.

CLEAR THE EVENTS LOG
To delete the event log (alarm memory), press and hold the **MENU** button: release the button when the display shows "Disarmed".

9.   SUPERVISION
This function allows to control the detectors learned on receiver.
The detectors automatically transmit a "live" radio code each hour. When the supervision is active, the receiver verifies to receive at least one "live" radio code from each detector within the selected time window (4, 8 or 12 hours). If the RX808-LCD does not receives a "live" code within this time, it will be signalled as "missed supervision".
In case of missed supervision, the **P** output switches (if programmed for "Supervision") and the display shows "Missed Supervision".
In case - after "missed supervision" – the "live" code is correctly received (after the same time window), the "Missed Supervision" and the **P** output back to normal state.
To visualize the supervision log, proceed as follows.
When the display shows "Missed Supervision", press more times the **EDIT** button: will be displayed chronologically all the missed supervision events, from newest to the oldest.
At the last event, the display blinks and some "beep" are emitted. To exit from supervision log press the **MENU** button.
In main events log, the missed SUPERVISON is shown by the number of zone on display and the blinking of **LWB** and **LED** LEDs.

10. SENSORS MASKING SIGNALLING
The receiver manages the masking signals of the following sensors: MOSKITO, MOSKITO+, VIPER, VIPER-DT, KAPTURE.
If a masking code is received, the TAMPER output will be activated for about 2 seconds and will be stored in ALARM MEMORY.

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Made in Italy

EU Declaration of Conformity
Hereby, DUEVI declares that the radio equipment type Receiver mod RX808-LCD is in compliance with Directive RED 2014/53/EU. The full text of the EU Declaration of Conformity is available at the internet address www.duevi.eu