REMOTE CONTROL SYSTEM

Receiver
900RXM-440R

GB   USER MANUAL

The scope of the WEEE Directive (Directive 2002/96/CE on disposal of electrical waste and electrical devices) is the reduction of dangerous substances to be disposed of. The basic aim is to favour the resolution and recover of disposable waste without risks.

CE

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A. Introduction

The ZSP-4 control system includes a group of electronic devices based on microprocessors. The Control System is composed by the 900RXM-440R receiver, radio remote controls and the supplementary 900CD-USB interface.

The basic applications for the ZSP-4 are able to control ports, scrolling systems and external devices such as switch/control and alarm systems, electronic blocks, etc.
The system is very flexible and the possibilities of use, vary based on client ideas and needs.

The components used are designed by manufacturers that create the best quality in the world. Our devices include many innovative functions and solutions. 900RXM-440R introduces a new modern concept of PC connectivity (USB port).

B. Assembly

1. Device description and installation

The 900RXM-440R receiver is composed by a motherboard and a plastic spray-proof protective covering with external aerial. The motherboard (fig. 1) is composed by the terminal block for the power supply connection or peripheral equipments. The container is composed by a terminal for the external aerial and is equipped with a fixed support.

The receiver motherboard can be directly mounted on the container of the controlled device (with the additional assembly set supplied with the ZSP4). The additional set includes: spacers fixing for the motherboard external installation to the container (3 pcs); ringed cable connector and plastic spacers to create the external aerial, supported by the unused receiver container and the wired aerial; Internal wired aerial; The receiver working temperatures are -20°C50°C with normal humidity.
The red LEDS show the current functioning state (they light up when the corresponding channel is active).

Power supply voltage: 12V - 24V AC/DC (built-in switching converter) or by USB port.
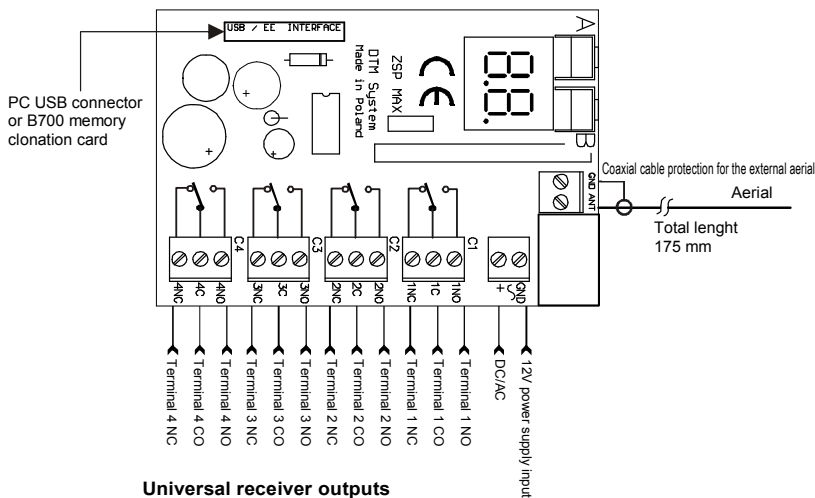
The 900RXM-440R receiver has four separated relay outputs (type NC or NO).

The 900RXM-440R receiver is available separately or included in the set with the registered transmitters.

Fig. 1   900RXM-440R Installation Diagram

Fig. 2   900TXB-44R transmitter
with buttons marked numbers.

2.   Receiver installation:

The receiver can be mounted into the standard container or in another box (e.g.. in the container of the port controller).

Assembling into the standard container:

- open the receiver container, remove the aerial and push the upper part of the container. After opening channel 1 and 2, the access to terminals and programming key commands will be easier: (fig. 1).
- to have access to the terminal of channel 3 and 4, push out from the container the electronic module. (First unscrew the M3 bolt). (Fig. 3, element 3).
- fix the lower part of the container as shown (fig. 3 element 0). To fix, use max. 5 mm in diameter screws – position and connect the wire as shown in the picture.
- switch on the power and procced with the programming of the receiver based on own needs, for further details please consult the following chapter.
- push back the upper part of the container and screw the external aerial (fig. 3).

ZSP4 assembly inside the container of another port controller:

- open the receiver container (fig. 3) and remove the electronic module. If necessary, remove also the external aerial (fig. 3, element 5), push the upper part of the container, and remove the M3 screws, remove the electronic module (fig. 3, element 3), remove the brass fixing block (fig. 3, element 4).
- by using fixing spacers, insert the module inside the controller container.
- position and connect the wires as shown in the picture.
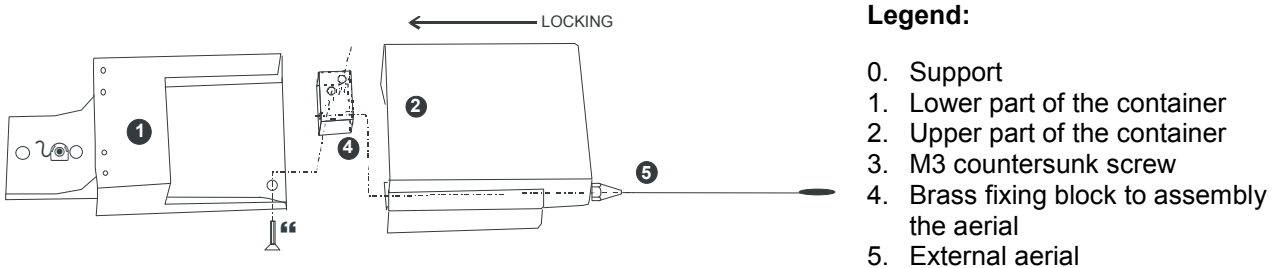

Legend:

0. Support
1. Lower part of the container
2. Upper part of the container
3. M3 countersunk screw
4. Brass fixing block to assembly the aerial
5. External aerial

Fig.3   900RXM-440R container and aerial elements.

3.   Electric connection

Power supply

The receiver can be fed with voltages between 12V to 24 AC/DC (120mA max). It is possible to use the internal voltage of the port controller. Alternatively it is requested an external feeding such us ZAS ZSP4ZEW.
The receiver can only be fed by USB port.

Receiver outputs (C1...C4)

The receiver outputs 1...2 include three terminals: NO (normally open) NC (normally close) and CO (commune) which correspond to the relay outputs (fig. 1) The parameters maximal limits for these connections are 1A/24V (AC/DC). For the inputs of NO (normally open) control, use the NO and CO connectors. For the inputs of NC (normally close) control, use the NC and CO connectors.

USB connector / EEPROM interface

The pin connector located on the motherboard can be used to:

- connect the PC (request 900CD-USB interface),
- clone (copy) the EEPROM memory (request EEPROM B700 interface).

ANT connector

For the connection of the external aerial it is possible to use the connector block element marked with the indication "ANT" instead of the one supplied with the set.This will allow to obtain a better range, in the case the 900RXM-440R is mounted inside the building with the aerial installed externally. The connector can also be used to connect a wired aerial in the case in which the receiver should be mounted inside of another controller container.
Usually this connector can be left disconnected in the case it is used the external aerial.

Advices to obtain an optimal radio reception:

- in order not to reduce the range, avoid the adjacency of energy devices and items in metal;
- radio interferences by other sources could reduce the range;
- avoid to mount the receiver on walls which are humid or made of concrete;
- don't forget to remove from the transmitters old batteries;
- mount the receiver as higher as possible;
- for the connection of the external aerial use a coaxial cable of good quality (e.g. RG 58)

Examples of use of the 900RXM-440R receiver:

To connect the 900RXM-440R receiver to a typical port or bar controller, connect the right terminals (for example manual control terminals) with the receiver outputs (usually CO and NO).
Use wires 0.15mm2 at least. Schemes n. 2 and 3 show some examples of connection fo the 900RXM-440R receiver to typical controllers.

For the control of inductive devices (e.g.. electromagnetic blocks, coil relay), it is advisable to mount the varistor, parallel to the coil in order to avoid that the relay contacts trigger the receiver (typical varistor voltage 47V with coils 24V). The other possibility, consists in the use of a simple silicon diode for example 1N4001 - only for DC feeding. For the control of the main devices (~230V/50Hz AC) use the external power relay (for example the PRZ EURPI85 power relay).
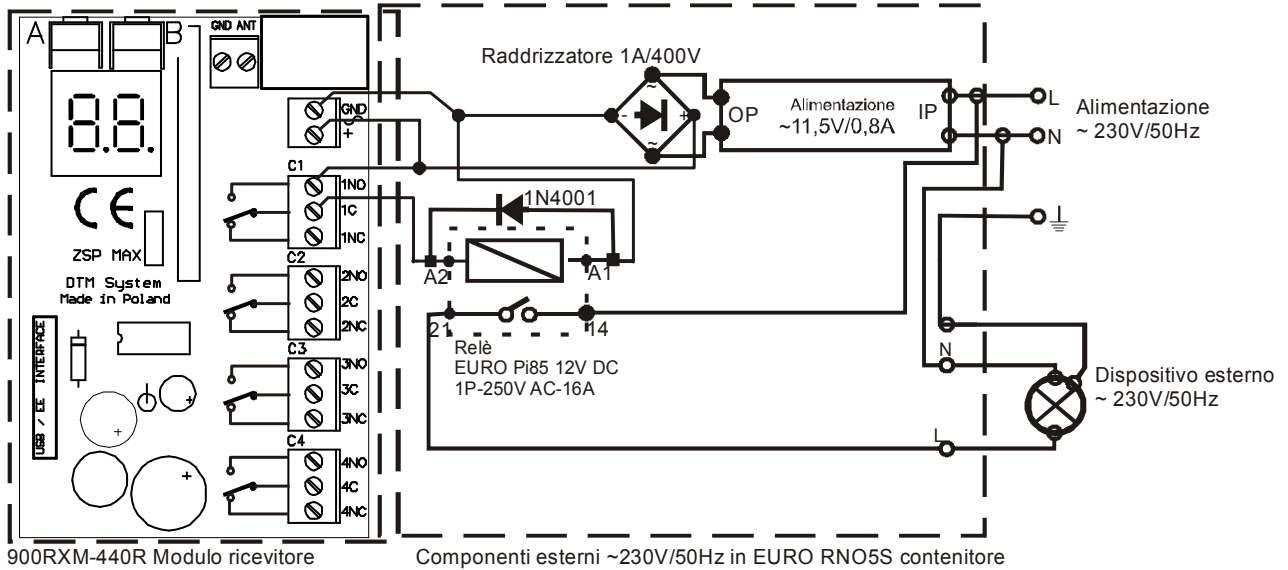
Scheme 1: an example of a ~230V external device connected to the 90 0RXM-440R receiver

900RXM-440R receiver module

Alimentazione DC ~24V

5
21
20

input "ad impulso»

Connettori aggiuntivi

Modulo elettronico

L'input "ad impulso" di corto circuito a terra (tramite filo di collegamento ①) guida il controller a porta.

Scheme 2.

Alimentazione AC ~24V

Connettore comune

input "ad impulso"

Connettori aggiuntivi

Modulo elettronico
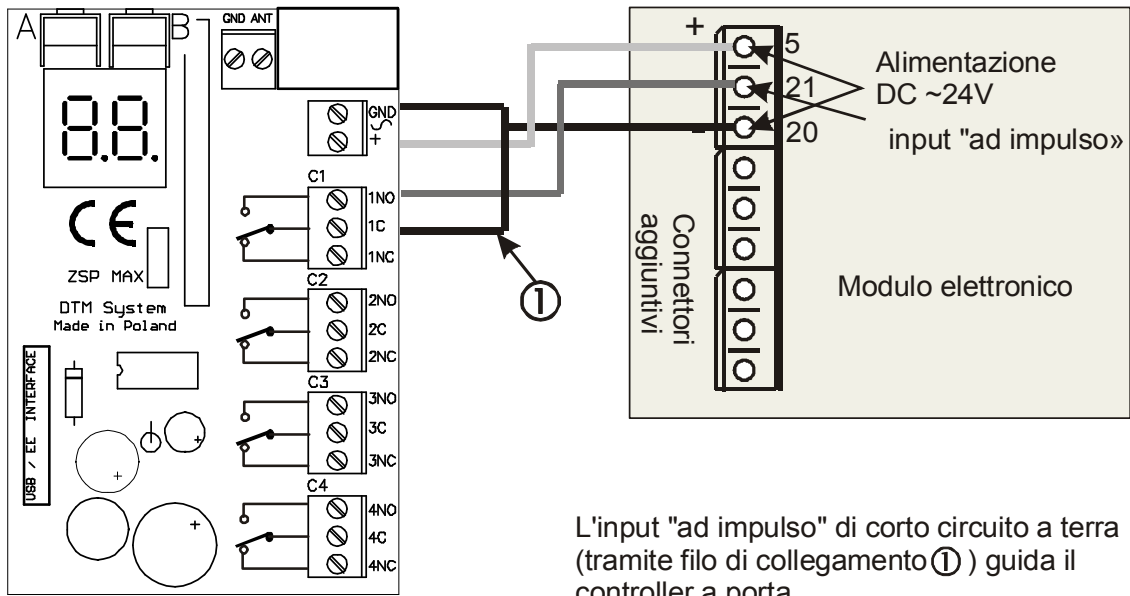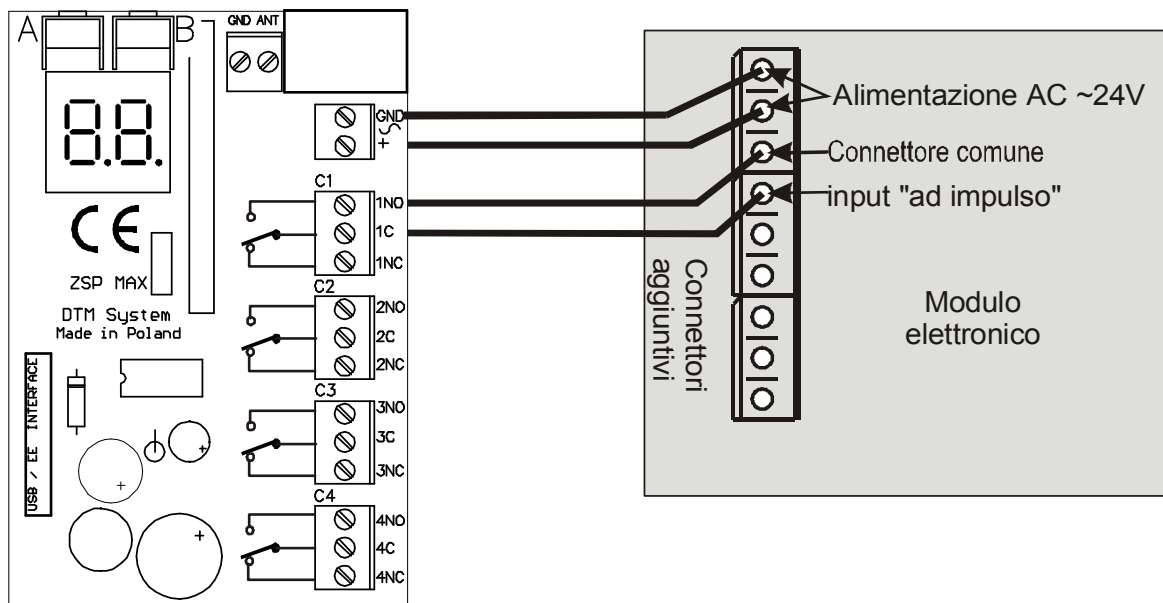
Scheme 3.

C. Operating Mode

Description:

After the power supply has been activated, the receiver will pass automatically to OPERATING MODE - signalled by the LED on, located on the right of the display. In this mode, the transmitter controls the receiver outputs.
After the key command of the programmed transmitter has been pressed, the correct output will be activated according to the user preferences – the channel's corresponding LEDS will show the present state of the outputs.

Indications of the display:

In stand-by mode, the indicator led located on the right of the display will blink.

By pressing any key commands of the programmed transmitter, the display will show: the number of the transmitter key command and the transmitter number in the receiver memory.

All this information will be shown in three phases as in the example on the left: P1 – indicates that channel number 1 has been activated, the following numbers (0) and (01) show the transmitter number in the receiver memory - 001.

Observations !

► After the power supply have been activated, the receiver will pass automatically to OPERATING MODE.
► If the receiver is connected with a USB cable, the display will show the symbol U (see page 30).

D. Simple registration of the transmitter without using the receiver key commands

The 900RXM-440R has a function that allows the user to add to the receiver memory a new transmitter without using the key commands. This function is useful only when a registered transmitter in available.

The bc option in the receiver menu (see page 18) could block this function for the specific transmitter. The block could also be extended to all transmitters (see page 25).

Pos.	Operation		Observations
1	▬ ⟫	radio reception	The position must be as close as possible to the radio receiver (but no closer than 1m). The receiver must be in OPERATING MODE.
2	👁	Key command of the transmitter already registered	Press and hold for 15 seconds, key command n. 2 of the transmitter already present in the receiver memory. The simple registration block for this transmitter must be disactivated.
3	⧗	>15 s	
4	⧗	<3s	The pause between the number 3 and 5 of the operations must be less than 3 sec.
5	👁	Key command for a new transmitter	Press key command n. 2 of the new transmitter for at least 15 seconds.
6	⧗	>15 s	
7	👍	The transmitter has been added	The new transmitter has been registered in the receiver memory. The preferences related to this transmitter have been copied by those of the transmitter used for the registration (from operation n. 2).
8	☹	Registration transmitter not allowed	The registration of the new transmitter is not possible. Possible reasons: - too many radio interferences. – Battery too low in one of the transmitters to have a data transmission of such capacity.

Table 1. Simple Registration Procedure.

Observations !

► The possibility of registering a new transmitter without using the receiver key commands, will reduce the safety of the system. The transmitters with bc option disactivated should be protected against the use from non-authorised personnel.
► For this procedure it is not possible to use a key command functioning in temporary mode.

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E. Receiver programming – introduction

The entire programming must be carried out by the LED display, the A and B receiver key command and the four key commands of any 900TXB-44R.

The receiver key commands are equipped with distinctive directional buttons that move through the programming menu. Use the ¾ commands of the 4 buttons transmitter to move vertically and the ½ commands, to move horizontally.

The A key of the receiver represents the enter key, the B key is used to cancel and to move within the menu structure.

The programming menu of the receiver has a tree structure composed of main and secondary options. For further information please refer to the following chapters.
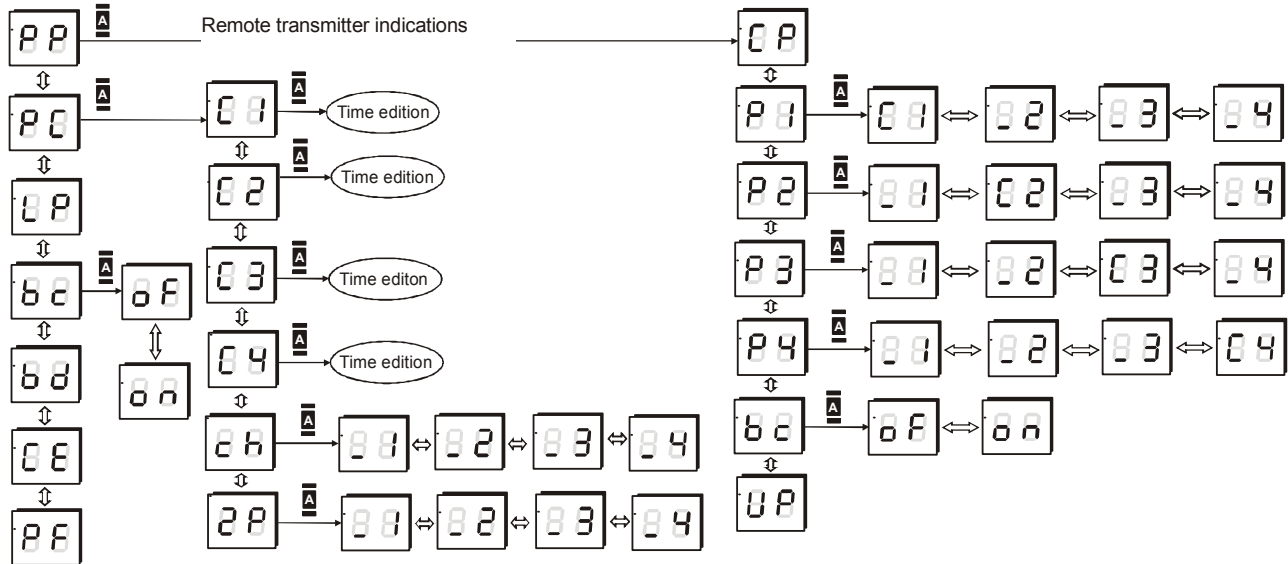
Fig. 5. Structure of the receiver programming menu

PP

PC

LP

bc

bd

CE

PF
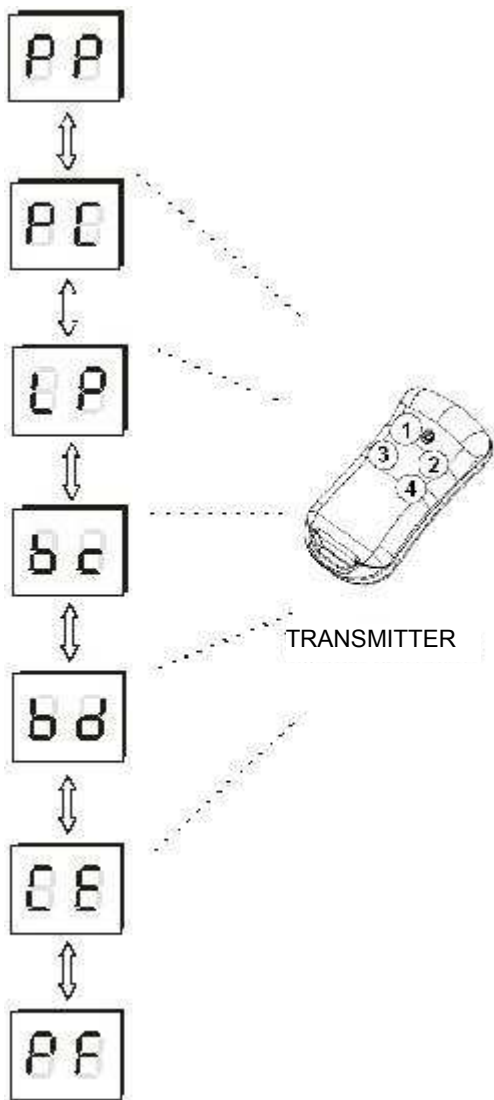
TRANSMITTER

1 Main Menu

The receiver configuration can be adjusted according to user needs. The programming options allow to register the transmitters to the receiver, to define one more options for the keys, remove a transmitter from the receiver memory, setting-up of the receiver outputs.

Press **A** to enter in PROGRAMMING MODE. The options can be chosen by pressing the keys of any 4 buttons 900TXB-44R transmitter.

Main menu options:

PP -   **transmitter programming** (registrazione, (registration, remove, copy, bc option) - see page 14

PC -   **channel set-up** (mono- / bi-stabile mode, temporary mode, double key, switching time) - see page 21

LP -   **number of registered transmitters in the memory** - see page 24

bc -   **Simple registration block for all transmitters** - see page 25

bd -   **PIN number setting** - see page 26

CE -   **memory copying** - see page 28

PF -   **default settings** - see page 29

OBSERVATIONS: the transmitter used for the first time after the entering PROGRAMMING MODE (after having press first the A key) will be used for the programming session and it will be indicated as a 4 button transmitter.

Fig. 6. Main menu options – available after the indication of the transmitter to be used during the programming session.

PP

⇩

- 3

- 2

- 1

- 0

Trasmettitore
da registrare.

0 ⇒ 01

CP
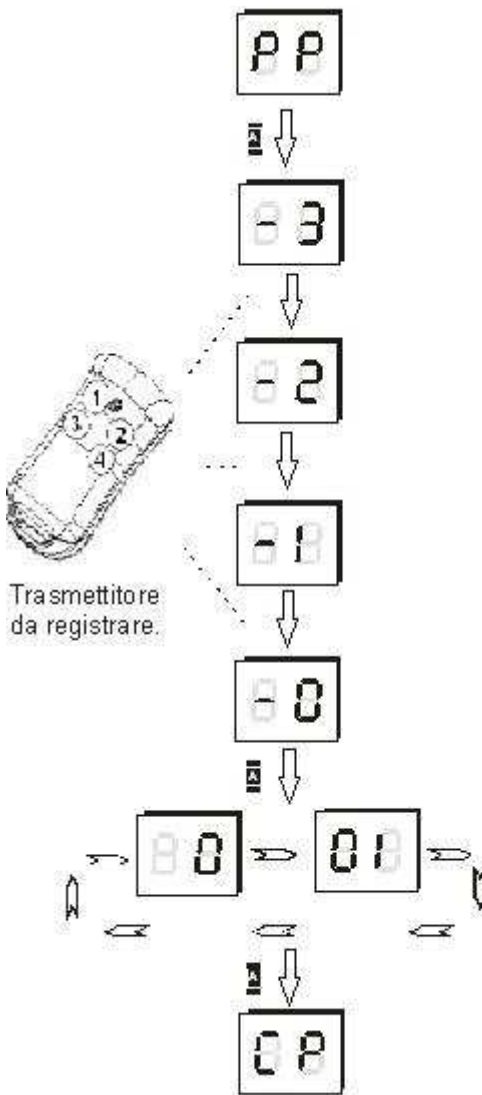
1.1 New transmitter set-up

The **PP** option represents the first option in the main menu.

The programming sequence for the setting-up of the new transmitter is:

a)   press $\overline{\underline{A}}$ with option PP on the display.

b)   press 3 times the transmitter key button to set-up, until 0 appears on the display,

c)   press $\overline{\underline{A}}$ to confirm the set-up,

d)   the position number of the new transmitter will appear on the display. Firstly the hundreds of the number will appear and then the tens and units (in the example 001), so premere il press $\overline{\underline{A}}$ to confirm,

e)   the new transmitter has been set-up in the memory. Press the key button $\overline{\underline{B}}$ twice to exit the menu or just once to return to the **PP** option to set-up another transmitter.

Observations !

► It is possible to return to the menu by pressing $\overline{\underline{B}}$.

► It is advisable to write down all the information related to the new transmitter, on the identification sheet present in the packaging and on the transmitter data sheet (see page 30).

► For storage purposes it is possible to use the EEPROM form, supplement B700 - see page 28.

Fig. 7. New transmitter setting procedure.

PP

⬇ (Ā)

‒ 3

⬇

‒ 2

⬇

‒ 1

⬇

‒ 0

⬇ (Ā)

8 0   ➤   0 1

⬇ (Ā)

C P

Trasmettitore
modificato
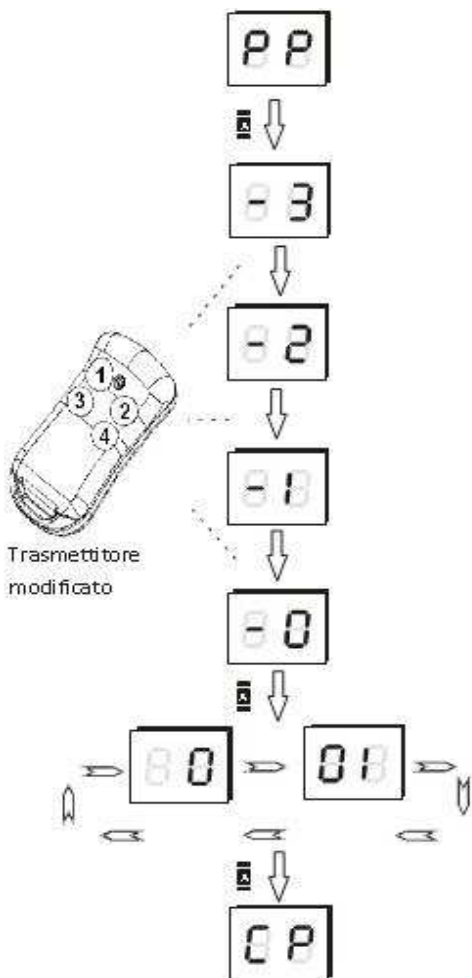
1.2   Changes to an existent transmitter

The PP option also allows you to modify the preferences of a transmitter already registered (changing of the transmitter key commands to the receiver outputs, removal of the transmitter, copy of the preferences from the 001 transmitter, etc.).

Indicate first the transmitter to be changed.

Indication of the transmitter to be changed:

a)   press $\overline{\underline{A}}$ with **PP** option on the display (modify the options by pressing up/down on the transmitter)

b)   press the transmitter key to be changed 3 times, until 0 appears on the display,

c)   press the $\overline{\underline{A}}$ button on the receiver,

d)   the number of the indicated transmitter will appear on the display (first the hundreds digit column, then the tens and units). Press $\overline{\underline{A}}$ to confirm.

e)   the transmitter has been indicated and the change options are now available **(CP, P1...P4, bc, UP).**

 Observations !

It is possible to return (cancel) to the menu by pressing $\overline{\underline{B}}$.

Fig. 8. Indication of the transmitter to be changed

TRASMETTITORE

Ritomo all'opzione

CP
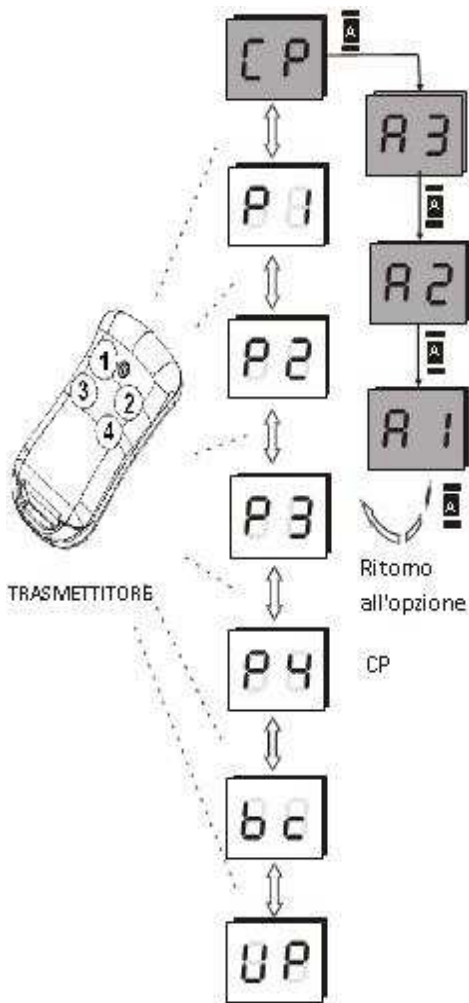
1.2.1 Copy of the transmitter preferences from transmitter n. 001

GB

After the transmitter to be changed has been indicated, all change options are available. Use the up/down keys of the transmitter to modify the sub-options:

CP - *copy of the transmitter preferences,*

P1...P4 - *indication of the receiver outputs to the various transmitter keys - see page 17,*

bc - *Simple registration block (singularly for each transmitter - see page 18,*

UP - *remove of the transmitter (page 19).*

The copy of the first transmitter settings (number 001) make the change easier and faster. It is useful in the case in which more than one transmitter have the same settings that differ from the default ones.

Copy of the 001 first transmitter preferences:

a) press the $\overline{\underline{\text{A}}}$ key when **CP** appears on the display.

b) press 3 times $\overline{\underline{\text{A}}}$ when **A3** appears on the display. The modified transmitter preferences have been copied from the first transmitter.

Observations !

► The first transmitter (n. 001) must usually indicate the requested preferences.

► The $\overline{\underline{\text{B}}}$ key can only go up on the menu (cancel) at any time.

► These functions can be used without the transmitter (see page 20).

Fig. 9. Procedure for the copying of the transmitter preferences

1.2.2 Transmitter preferences copy procedure

After the transmitter to be changed has been indicated, all change sub-options are available. Use the up/down keys of the transmitter to modify the sub-options:

CP - *copy of the transmitter preferences - see page 16,*
P1...P4 - ***definition of the channel to the transmitter key commands,***
bc - *simple registration block (individually for each transmitter - see page 18,*
UP - *transmitter removal - see page 19.*

The new registered transmitter will indicate the user preferences:
Key 1 - channel 1,
Key 2 - channel 2,
Key 3 - channel 3,
Key 4 - channel 4.

This option will allow to modify these settings. It is possible to associate some key commands to the same button of the transmitter, etc.

Return to options P1...P4

Fig. 10. Channels definition to the transmitter key commands

Change of the channel definitions to the transmitter key commands:

a) choose the correct option **P1...P4** for the key to be changed,
b) press the key $\overline{\underline{\mathbf{A}}}$ to move to the choosen option,
c) by using the left/right keys choose the channel to be added/ canceled.
d) to enter the indication _ (to cancel) or C (to set the channel with the changing key command) press up/down keys.
e) press $\overline{\underline{\mathbf{A}}}$ to confirm.

Observations !

► The keys setting can be modified without the transmitter (page 20).

Fig.11 Simple registration block

1.2.3 Simple registration block

After the indication of the transmitter to be modified, all changing sub-options are available. Use the transmitter up/down keys to modify the sub-options.

CP - *copy of the transmitter preferences - see page 16,*
P1...P4 - *channel definition to the transmitter keys -*
see p a g e 1 7 ,
bc - **simple registration block (individually for each transmitter)**
UP - *transmitter elimination - see page 19.*

The "simple registration block" option has been introduced to guarantee the best safety system - see page 11.

To activate/deactivate the block for the registration of a new transmitter:

a) press $\overline{\underline{\text{A}}}$ when bc appears on the display,
b) it is possible to activate (on) or deactivate (off) the block by pressing the up/down keys,
c) press button $\overline{\underline{\text{A}}}$ to confirm the choice.

Observations !

► This block function is distinctive for each specific transmitter.

► To modify the block for *all transmitters* see page 25,

► It is possible to return to the menu by pressing the button $\overline{\underline{\text{B}}}$,

► This function can be used without the transmitter (page 20).

Fig.12 Transmitter elimination

1.2.4 Transmitter elimination

After the transmitter to be changed has been indicated, all change sub-options are available. Use the up/down transmitter keys to modify the sub-options:
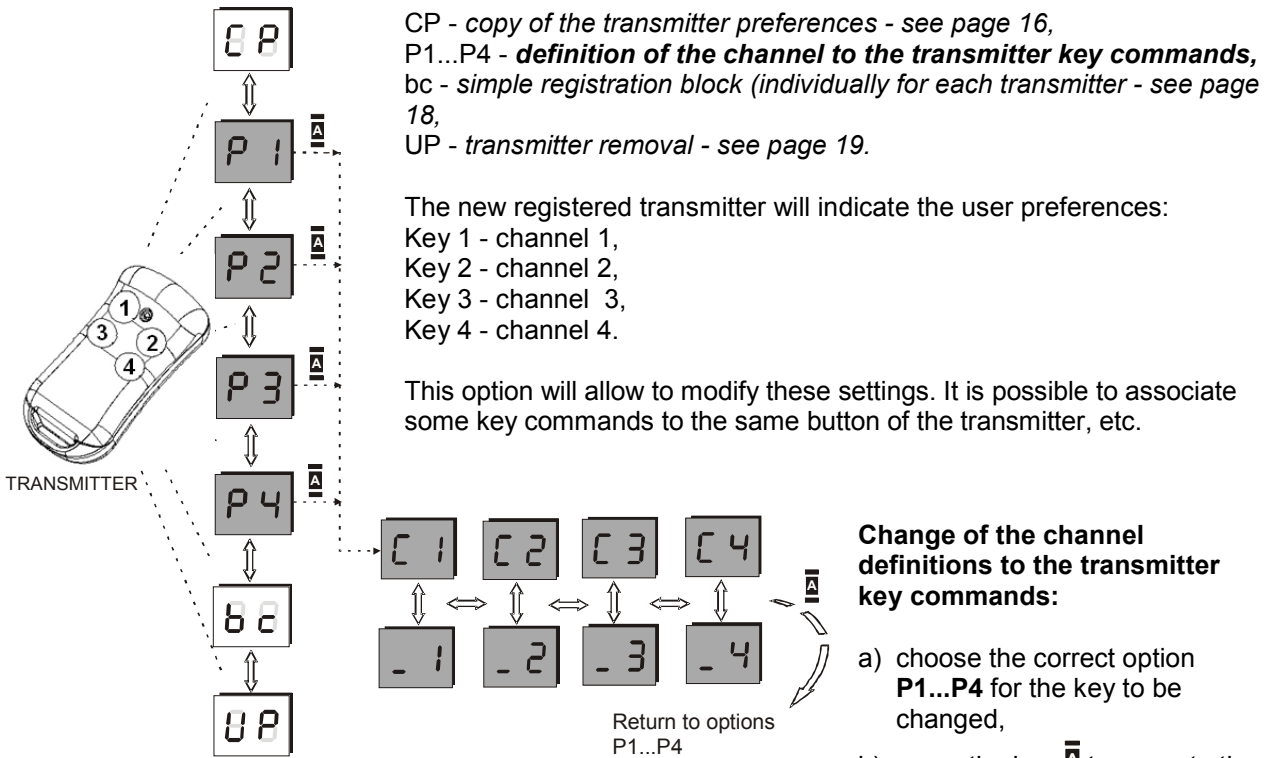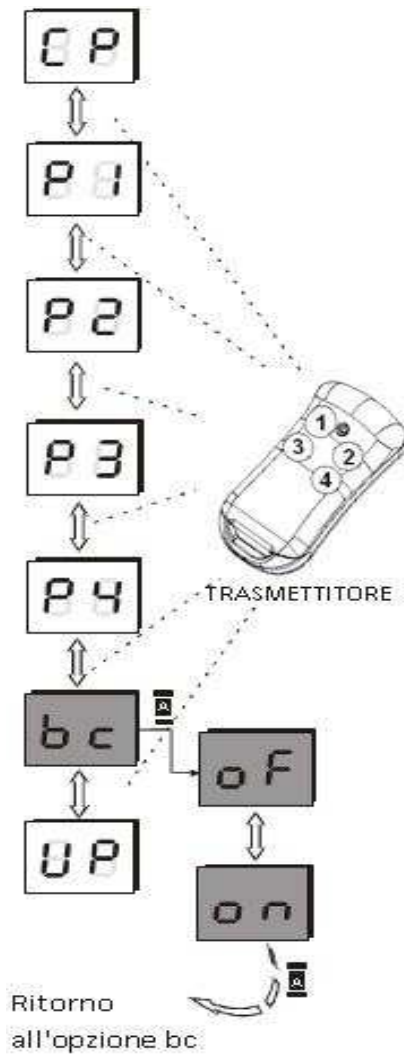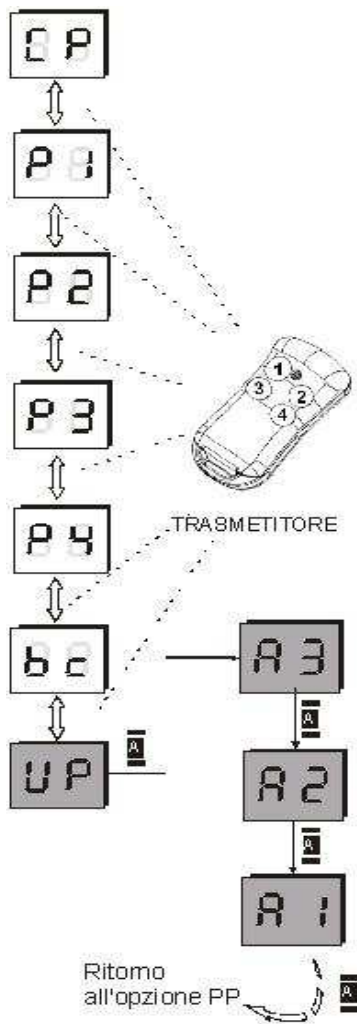
CP - *copy of the transmitter preferences - see page 16,*
P1..P4 - *channel definition to the transmitter keys – see page 18,*
bc - *simple registration block (individually for each transmitter – see page 18,*
UP - **transmitter elimination**

This option is used to eliminate one of the existing transmitters. All the other numbers of the existing transmitters will be kept. When another transmitter is added to the system the assigning number will be the one first available.

To eliminate a transmitter:

a) press $\overline{\underline{A}}$ when **UP** appears on the display.

b) press three times $\overline{\underline{A}}$ when **A3** appears on the display.

Observations !

► To keep the positioning number of a transmitter, temporarily not available in the receiver memory, disconnect all the channels from the key commands (**P1...P4** options),

► It is possible to return (cancel) to the meny by pressing $\overline{\underline{B}}$,

► A transmitter can be eliminated without the effective presence - see page 20.

1.3 How to modify the transmitter settings without its active presence

The system allows you to take advantage of some functions amongst which are the copying of the settings, modification of key commands setting, simple registration block and transmitter elimination without its active presence – with the only requirement being to supply the transmitter number. All transmitter data must be memorised in the motherboard – see page 34 or into the PC – see page 30. This option is very useful for example in the case of theft, or to modify a particular channel number and to update the setting of the remaining transmitters.

The only difference between the use of the transmitter without/with its effective presence is the indication relating to the version. All the actions here mentioned are similar to those indicated from point 1.2.1 to 1.2.4.

To declare a remote for editing without physical presence:

a) press ⬛ to move to programming mode,

b) press ⬛ when PP appears on the display,

c) press once ⬛ while -3 appears on the display. The first serial number (hundreds) will appear on the display. Use the up/down transmitter keys to enter the correct value and left/right keys to modify the number inside the "hundreds", "tens" and "units" column. The hundreds are indicated as only one number, the tens and units will appear together. (Two digits: from left, the tens and then the units),

d) press ⬛ to confirm. The display will show the serial number entered,

e) press once ⬛ to confirm in order to have access to the option to modify the transmitter. Remember that the transmitter which has been modified, will be the one which serial number, in point C, has been entered manually.

Follow from point 1.2.1 to 1.2.4

1.4 Channel times settings

The second option of the menu is PC which allows you to modify methods and activation time of the channels.

The start-up time allowed is between 0,1 sec and 6553,5 sec (about 110 min.). The start-up time resolution is 0,1 sec. By entering 0 sec. it will activate the channel in bistable mode. The default settings for each channel are: 0 00 05 - which indicates 0,5 sec.
Modify the current number by pressing left/right keys. To modify the flashing number press the keys up-down.

To programme the receiver channels:

a) use up/down keys to choose PC option and press key $\overline{\underline{\text{A}}}$,
b) use up/down keys to chose a channel C1...C4 and press the key $\overline{\underline{\text{A}}}$,
c) to modify the flashing number press up/down keys and change the number by pressing the left/right keys.
d) to confirm the start time press key $\overline{\underline{\text{A}}}$.
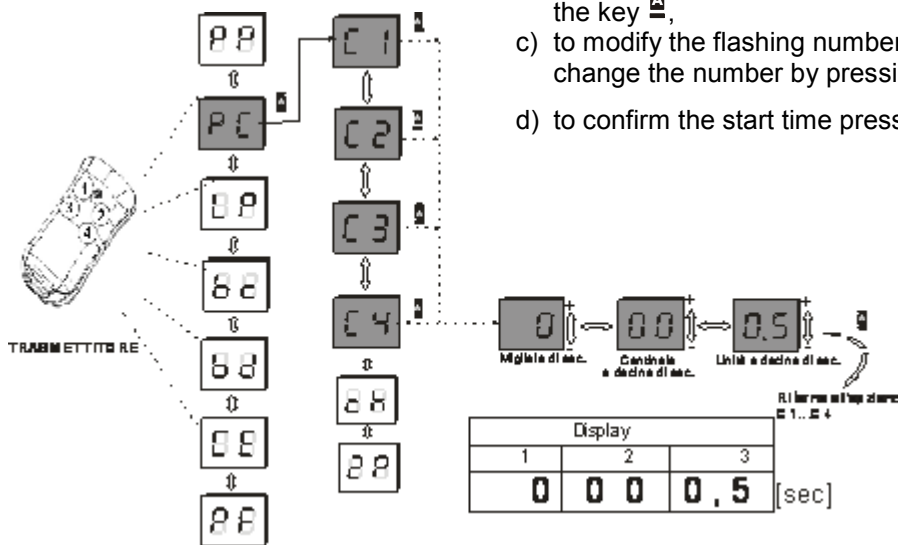
▶ To activate the bistabile mode set the time at 0 sec.

▶ It is possible to go back (cancel) to the menu by pressing key $\overline{\underline{\text{B}}}$

▶ If the channel is set to work in a temporary mode -) see page 22) - the display will show – . This mode will be disactivated by setting it at any time.

Display		
1	2	3
0	**0 0**	**0 , 5** [sec]

Fig.13. Programming of the receiver

1.5   Temporary mode

This option sets the channel to a temporary mode when the exit relay is activated with the release of the transmitter key (by releasing the key the relay will switch off).

The start up time is 25 seconds maximum. After this time the transmitter will switch off in order to save the battery and can be reactivated again for further 25 seconds.

To set the temporary mode on one of the channels:

a) use the up/down keys to chose the option ch and press the key $\overline{\underline{A}}$,

b) the display will show the number of the channel, use the up/down keys to chose between the C symbol (temporary mode) or symbol _ (normal time settings),

c) to change the modified channel press left/right keys,

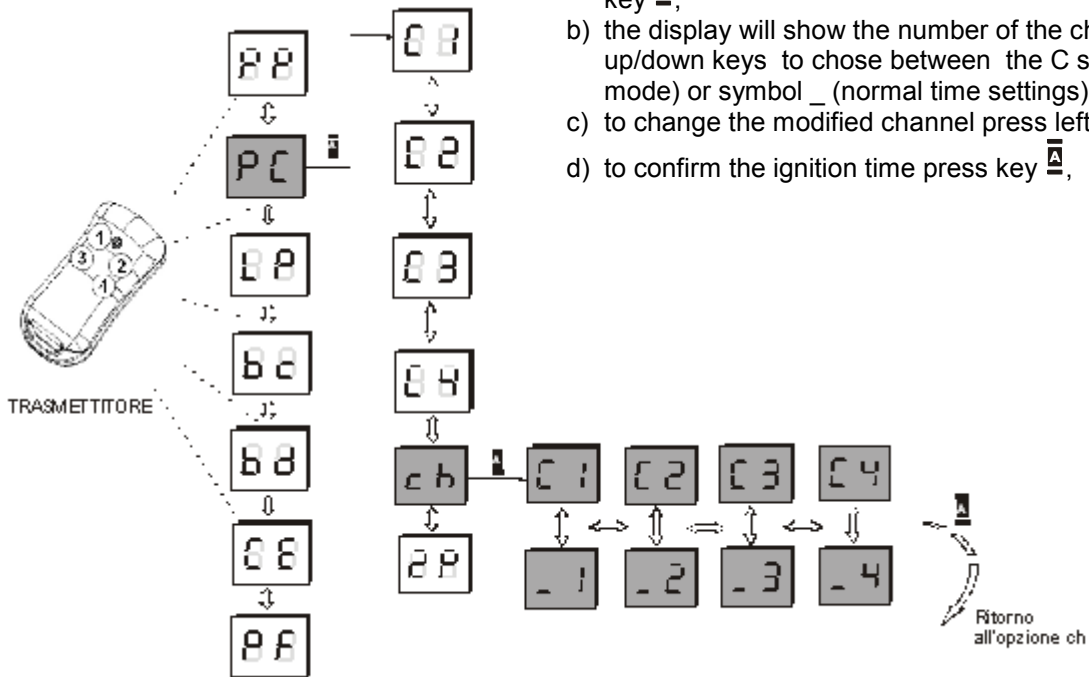d) to confirm the ignition time press key $\overline{\underline{A}}$,

Fig. 14. Temporary mode set-up procedure

1.6 Double click mode

After setting this option double click the transmitter key to activate the exit of the receiver. The second click has to be done within 3 seconds at the first. This function cannot be set if the channel is in temporary mode. If the channel is set to work in bistable mode, press the transmitter key twice to activate the channel, only once to deactivate it. This function will reduce unintentional activation of the channel.

To set the double click mode:

a) use the up/down keys to chose 2P option and press the key A,

b) the display will show the channel number, use up/down keys to chose between symbol C (double click mode) or symbol _ (normal),

c) to change the modified channel press left/right keys
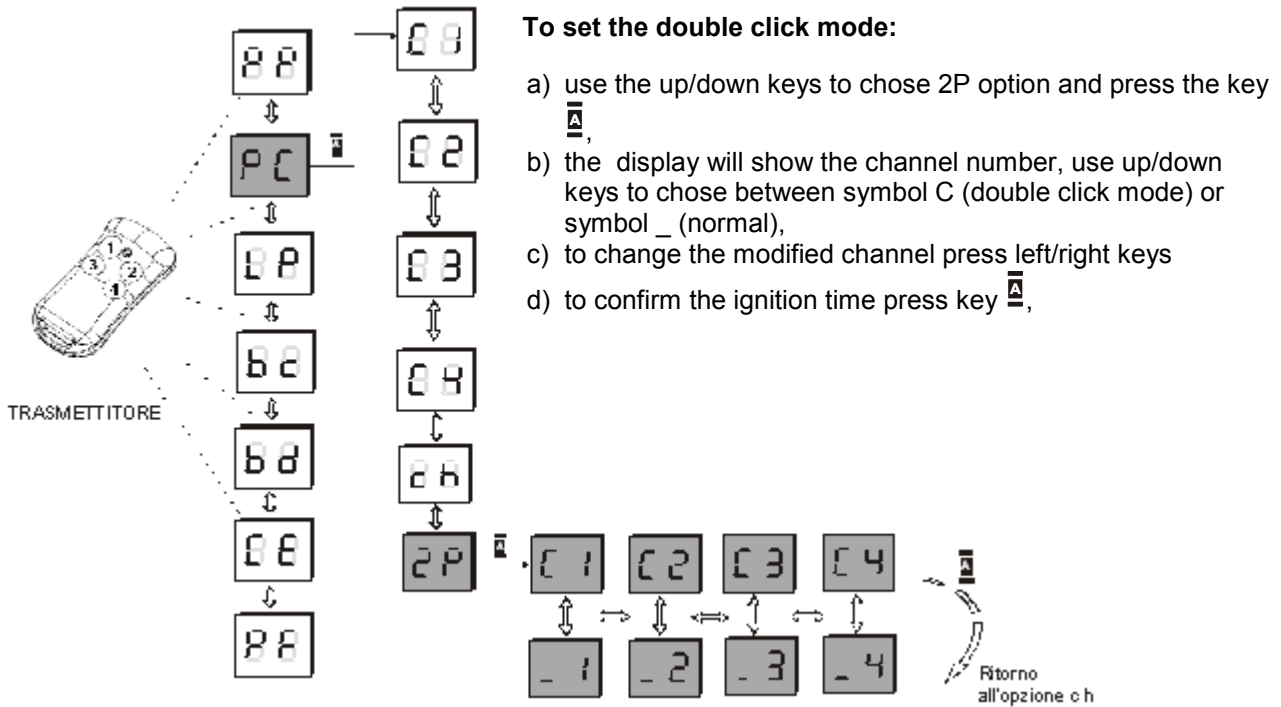
d) to confirm the ignition time press key A,

Fig. 15. Double click mode set-up procedure

1.7   Number of registered transmitters

The third option of the main menu is LP which shows the actual number of registered transmitters. After having chosen the option LP the display will show the quantity divided in two parts: hundreds, tens and units column, for example. If the first part of the number is 0 and the second is 11 that means 011.

The max number allowed of registered transmitters in the 900RXM-440R memory is 700.

To check the actual number of registered transmitters:

a) use the key buttons up/down to choose the LP option and press $\overline{\underline{A}}$,
b) the display will show the actual number of registered transmitters.

Return to menu by pressing $\overline{\underline{A}}$ or $\overline{\underline{B}}$.

Observations!

► Press $\overline{\underline{A}}$ or $\overline{\underline{B}}$ to cancel.
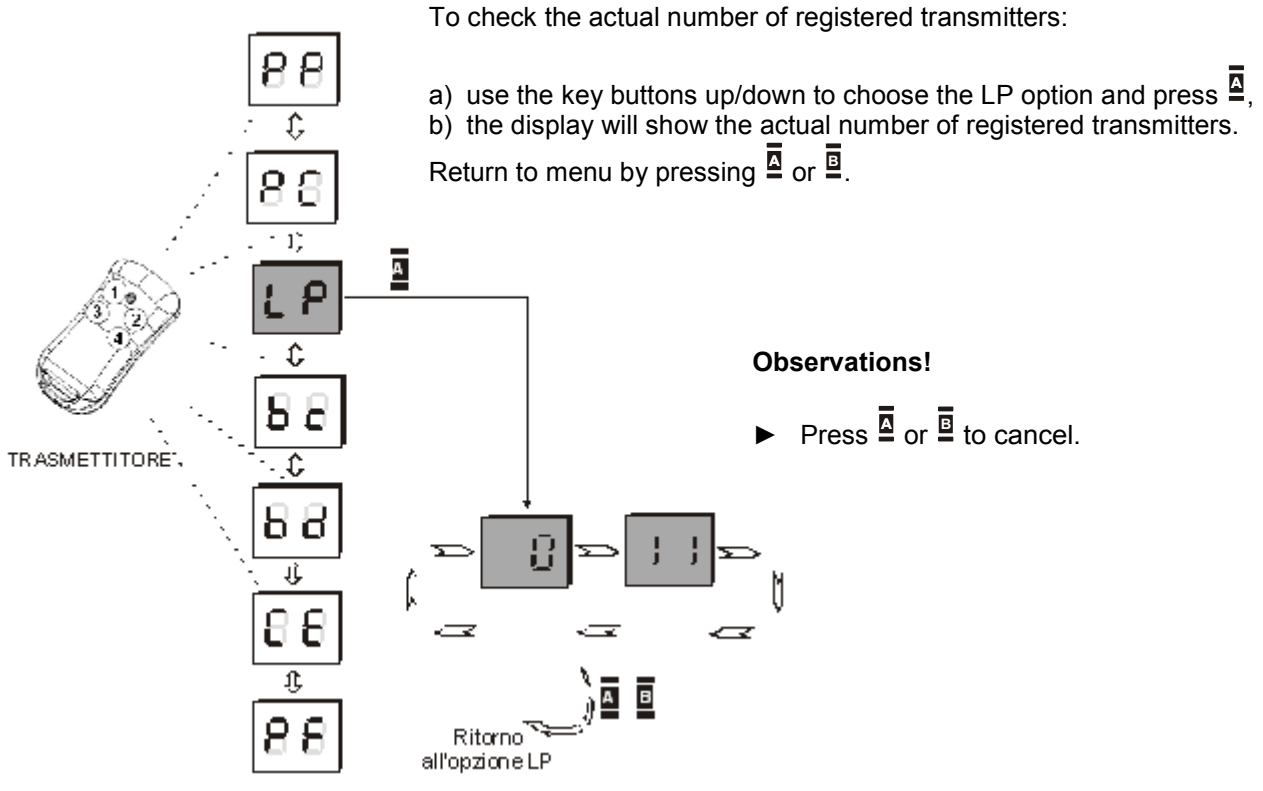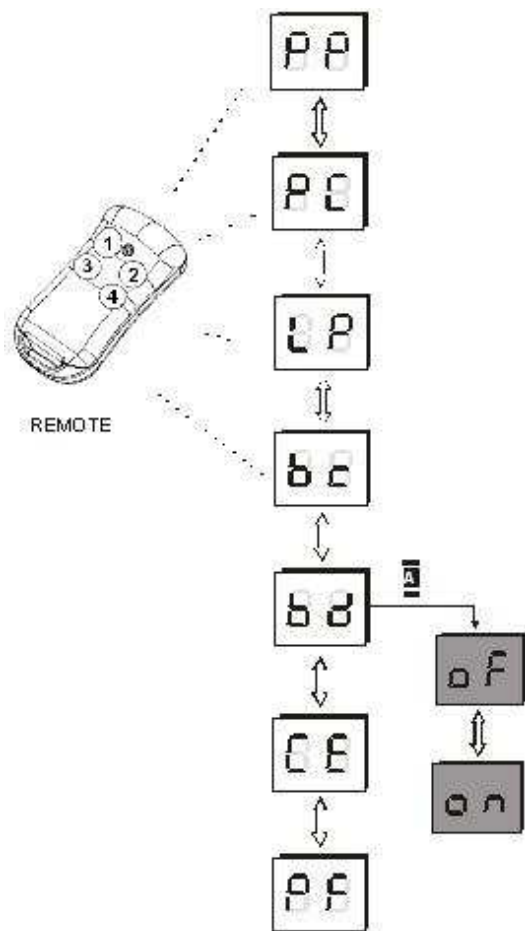
Fig. 16. Procedure to check the number of registered transmitters.

1.8 Basic registration block for all transmitters

The bc option in the main menu blocks the basic registration function for all transmitters already registered.

This block can be activated (on) or deactivated (off -or default setting).

To set the basic registration block for all transmitters already registered:

a) use the **up/down** keys to choose the **bc** option and press key ▣,

b) use the **left/right** keys to activate (**on**) or deactivate (**off**) this function and confirm with key ▣.

Observations!

► Press key ▣ to cancel.

► After the setting the block will be active also for all the transmitters registered after.

Fig. 17. Basic registration block procedure setting
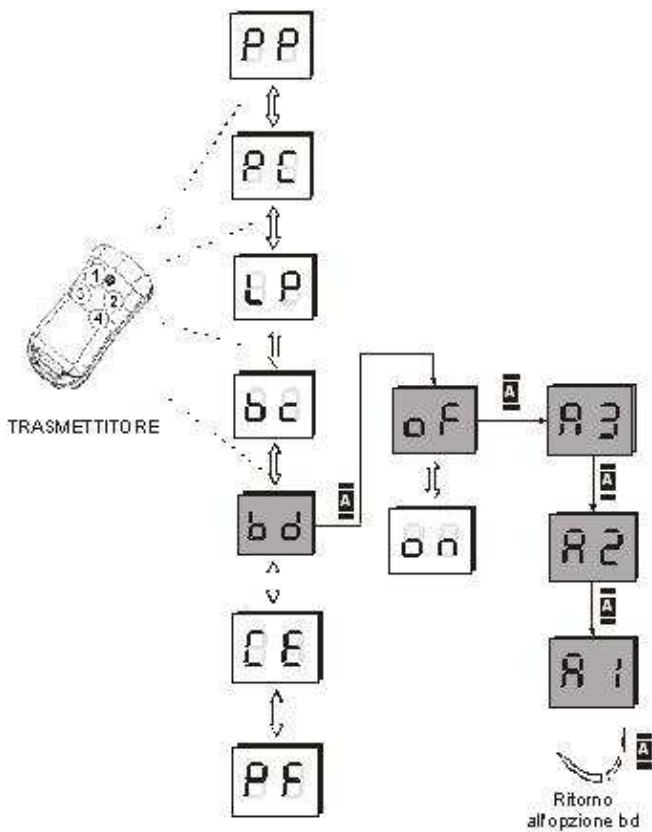
1.9 Limited access to the main menu setting (PIN code)

The **bd** option of the main menu checks the PIN number when entering the main menu.

The possible settings are: active (**on**), deactivate (**off**). This option is not active as a default setting.

To activate the PIN number check at the beginning of the main menu:

a) use up/down keys to chose the **bc** option and press key $\overline{\underline{\text{A}}}$,

b) use the up/down keys to deactivate (off) this function, confirm with key $\overline{\underline{\text{A}}}$, when A3 will appear on the display press 3 times the receiver key $\overline{\underline{\text{A}}}$.

Observations!

► Press key $\overline{\underline{\text{B}}}$ to cancel.

Fig. 18. Deactivation of the PIN number check procedure.

Main menu limited access setting (PIN code):
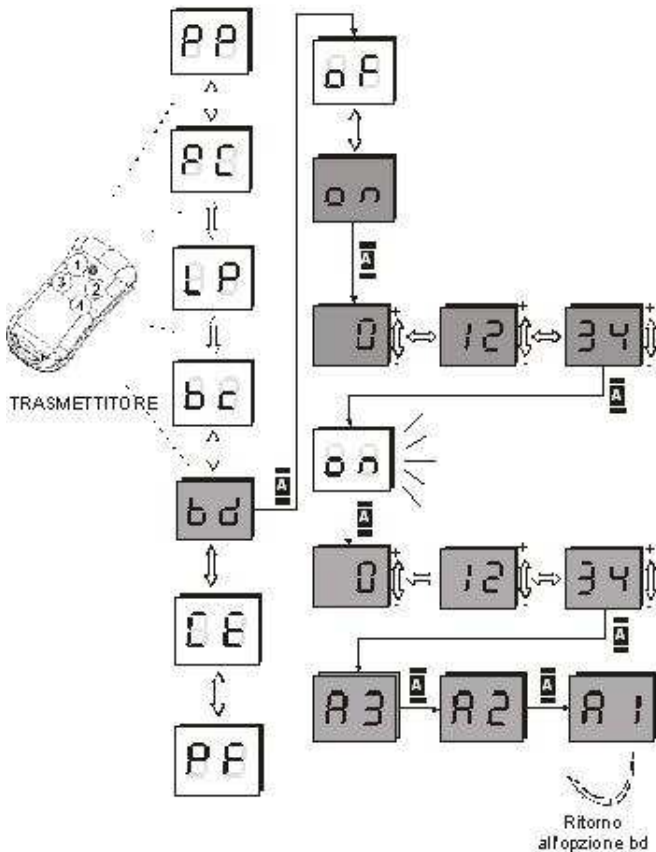
To activate the PIN check and the new PIN code:

a) use the up/down keys to chose the **bd** option and press key $\overline{\underline{\text{A}}}$,
b) use the up/down keys to activate (on) this function, confirm with key $\overline{\underline{\text{A}}}$,
c) the first digit of the PIN code will appear on the display,
d) with the up/down keys choose the right number,
e) press the right hand key to pass onto the following number, follow point d to set the complete value of the PIN number,
f) press the key $\overline{\underline{\text{A}}}$ on the receiver, the led "on" will flash,
g) press the key $\overline{\underline{\text{A}}}$ again to confirm the PIN number, enter the same code again.
h) after having released the key $\overline{\underline{\text{A}}}$, A3 will appear on the display, press the key $\overline{\underline{\text{A}}}$ 3 times.

Observations!

► The loss of the **PIN** code will block the access to the main menu. In that case only the receiver manufacturer can unblock the access.

Fig. 19. Activation of the PIN check and new PIN number setting procedure
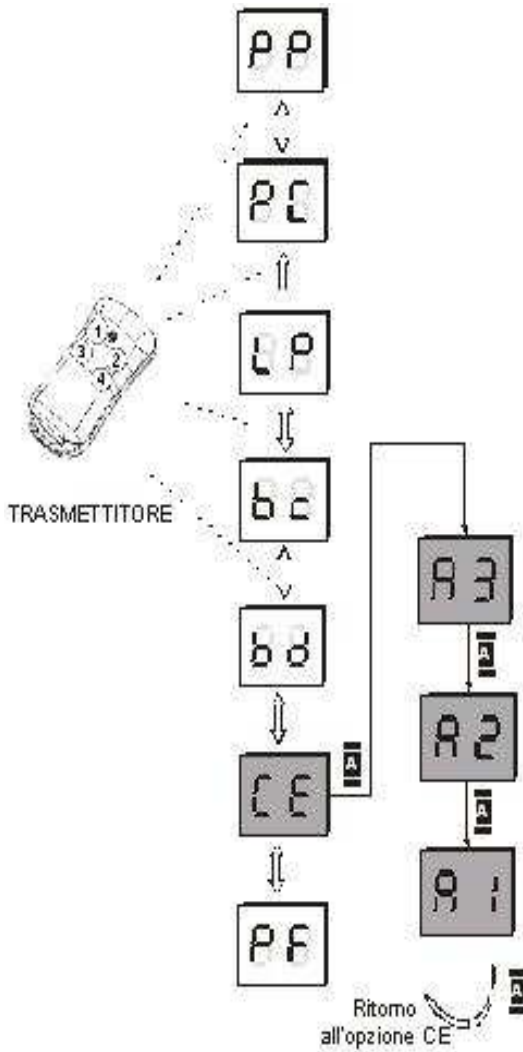
1.10 Memory cloning

The CE option allows you to copy/clone the memory of the receiver with the whole configuration and all the remote data onto another receiver.

This option can be used only with one cloning module memory B700.

To clone the memory:

a) connect module B700 in to the main board of the receiver,
b) use the up/down keys to choose the **CE** option and press the key $\overline{\underline{A}}$,
c) the **A3** symbol will appear on the display, press key $\overline{\underline{A}}$ 3 time to accept.
d) wait for the memory to be cloned.

During the cloning the display will flash in a particular way. At the end of the operation the display will show the **CE** again (main menu).

Observations!

► Place module B700 in the correct position. Mind the pins. If placed wrongly the receiver or the module might not work properly.

► In the case of breakage of the module or lack of connection with the motherboard, the display will show symbols **EE** and **Er**

Fig. 20. Memory cloning procedure.

Fig. 21. Default settings procedure
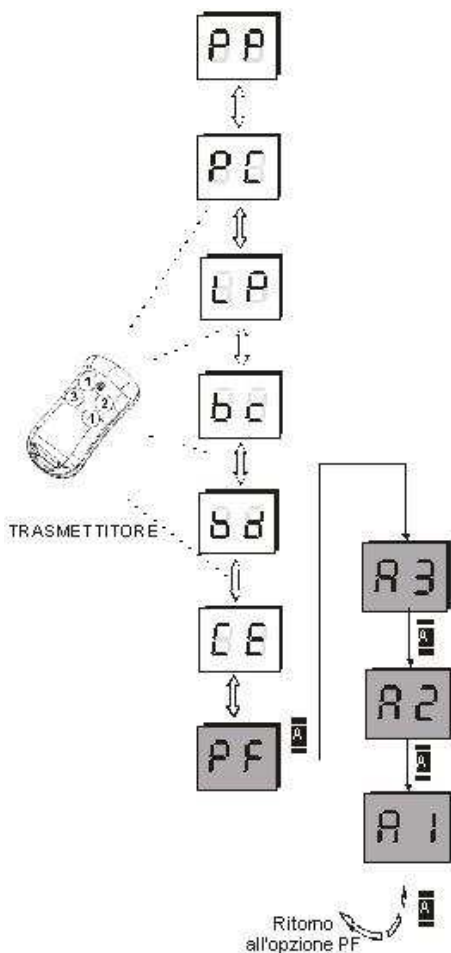
1.11 Default settings

The **PF** option re-establish the default settings of the receiver.

The default settings are:

- no transmitter is registered in the memory,
- all 4 channels operate in monostabile mode (starting time 0.5 sec),
- basic registration block deactivated,
- PIN verification deactivated,
- double click mode deactivated.

To re-establish the receiver and to assign the default settings:

a) use up/down keys to choose the PF option and press key $\overline{\underline{\text{A}}}$,

b) press three times $\overline{\underline{\text{A}}}$ while the display will show A3 to confirm the option,

Observations!

► The use of the **PF** option will remove all the registered commands from the receiver memory and will assign the default settings for all channels.

► press $\overline{\underline{\text{B}}}$ to cancel.

1.12 PC connection (USB port)

The receiver can be connected to a PC by using a standard USB cable and the "Programator ZSP USB" software. The cable and the software are available as an option.

The PC interface is more user-friendly compared to the standard receiver menu and provides some additional functions.
Additional options available in the PC software are:

- additional description for each transmitter (e.g. user's name),
- event register,
- copy of the memory to a file,
- channels checking by PC.

To connect the receiver to the PC:

a) connect the 900CD-USB interface by following the instructions in the manual,
b) **U** will appear on the display,
c) the receiver will be automatically recognised by the computer,
d) on first installation Windows creator will be launched in order to conduct the installation process,
e) the configuration is ready.

Fig. 22. The symbol on the display during the USB connection

Observations!

► The PC connectivity is available only with a receiver software version above 2.0. The receivers with an older version can not be used and an update is needed. For further information please contact the manufacturer. The actual version of the receiver is shown on the display after the start-up (without the USB cable).
► In the functioning with USB the receiver can not be powered with an external source.
► All the information related to the installation is available inside the manual which is supplied with the USB cable and the interface.

F. Specifications of the ZSP system elements

900RXM-440R receiver
- four outputs with separated relay, type NO or NC, mono mode functioning, bistabile or temporary, max load for each output 1A/24V AC/DC – the receiver supports up to 700 transmitters, all addressable
- possibility of monitoring, change and elimination of the transmitter, also without its active presence,
- fixed outputs to the transmitter key commands – access control
- basic registration function,
- the EEPROM receiver memory facilitate the maintenance,
- start-up time in monostabile mode: between 0,1 sec. up to 107 min. (resolution at 0,1 sec.), the bistable mode reminds last status before shutting off,
- information on the number of registered transmitters,
- memory clonation function,
- PIN code for better security,
- PC connectivity (USB port),
- "watch dog" circuit protection from the programme flux,
- user interface based on key commands and LED display,
- terminal for external aerial coaxial cable,
- plastic cover, spray-proof
- power supply: from 12V to 24V AC or DC, integrated switch trigger,
- working temperature: from -20 C0 to + 55 C0,
- dimensions: cover: 80 (plus 40mm support) x60x30mm, without container: 74x50x18mm,
- operating frequency: 433.92 MHz

G. Certifications

All ZSP devices are certified in accordance with the European standards and all have the CE mark.

H. Warranty

Key automation checks all devices before dispatch. The length of the warranty is 24 months, starting form the sale date. This time-frame is calculated based on the warranty tag. The manufacturer will extablish all the problems resulting from this anomaly. The malfunctioning devices should be returned to the distributor, together with a brief description of the problem. The cost for assembly/disassembly is ... The warranty does not cover: transmitter batteries, damages caused by improper use, repairing or modifications carried out by the user, lightning, overvoltages or short-cuts in the main power supply. The details related to the warranty are ruled by appropriate legal procedures.
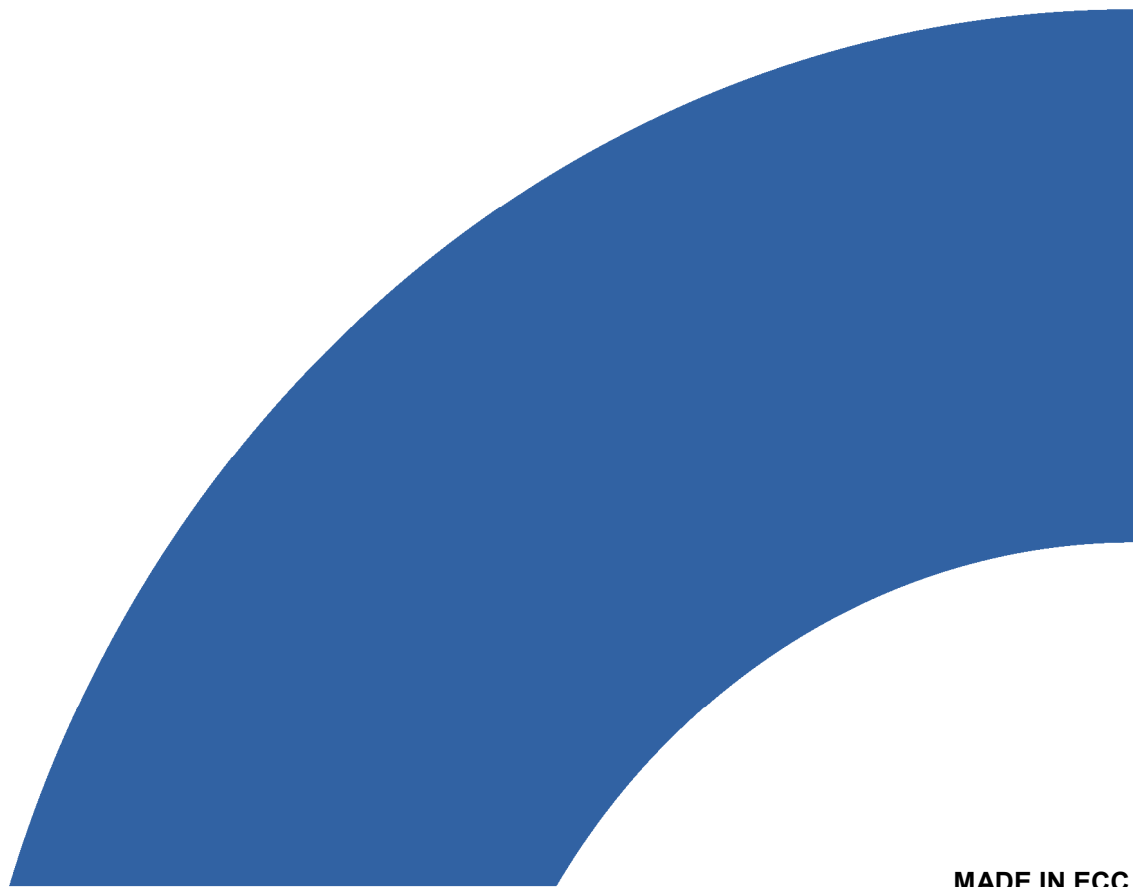
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		C-1	C-2	C-3	C-4	C-1	C-2	C-3	C-4	C-1	C-2	C-3	C-4	C-1	C-2	C-3	C-4
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Tab. 2. Example of ID table for 20 transmitters

NOTES