

ELFIPA

AUTOMAZIONE TIRO A VOLO
REALIZZAZIONI ELETTRONICHE

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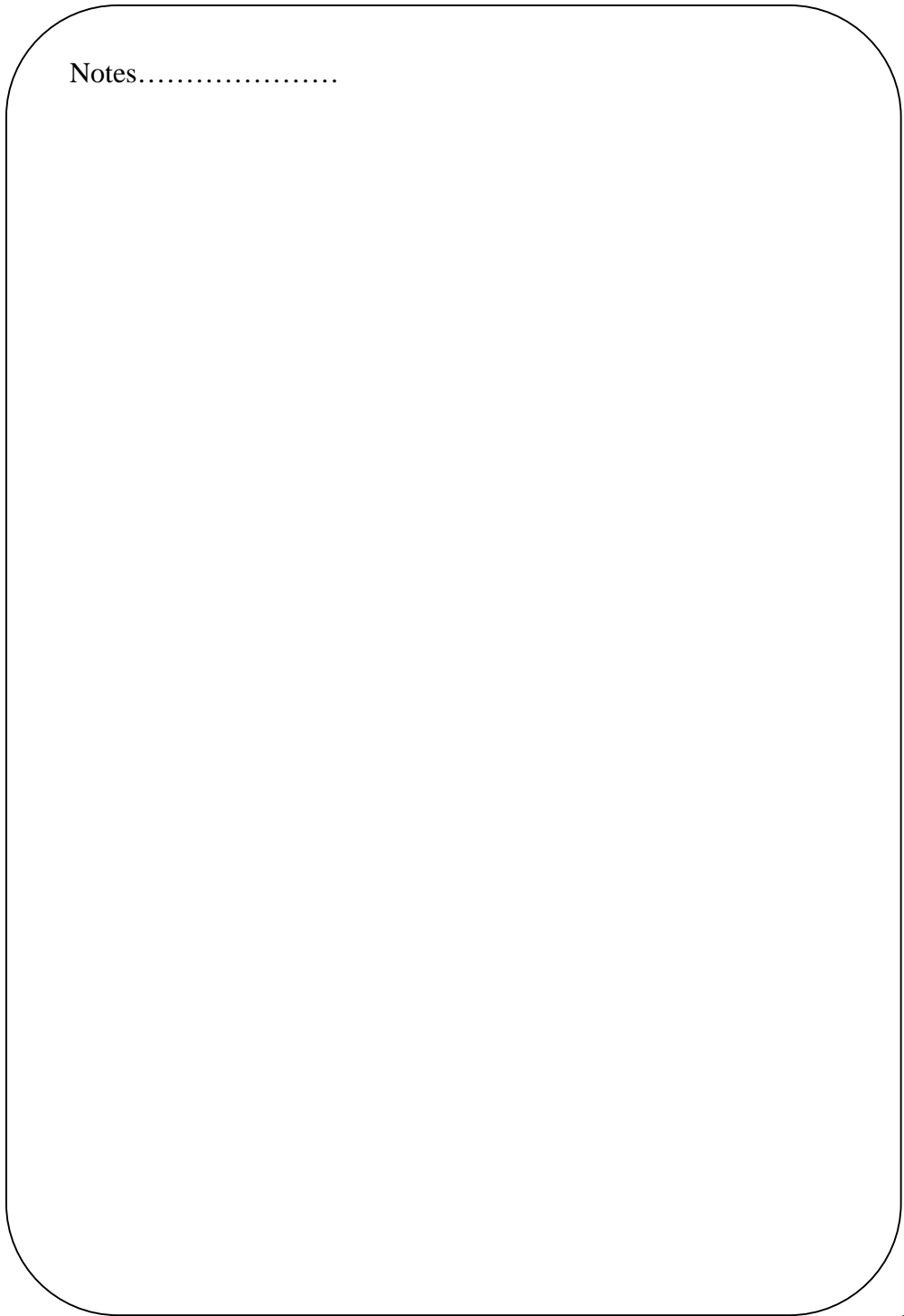
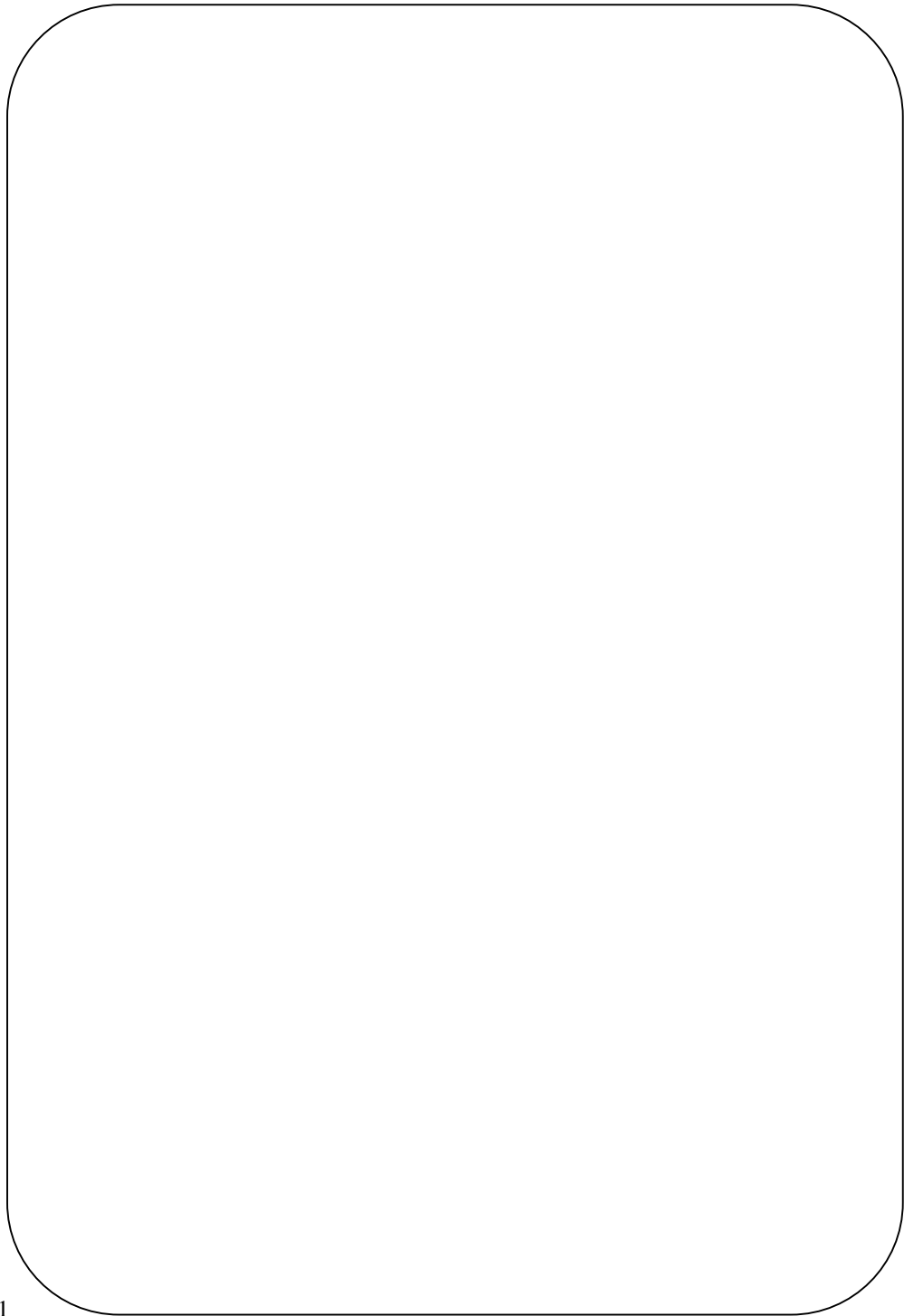
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Exchange Box

Operating Instructions



Notes.....

DECLARATION OF CONFORMITY



The Firm **ELFIPA S.n.c.**

P.zza XXIV Maggio, 6 – 31040 Gorgo al Monticano (TV)

Dichiara sotto la propria responsabilità che:

the Product

Exchange Box

Models: - ***QSK03 – QSK04 – QSK05***

to which is referred this Conformity Declaration CE, has been planned and built, according to the following Community Directives:

- Electromagnetic Compatibility Directive (EMC) 89/336/CEE
- R&TTE Directive 1999/5/CE
- Machines Directive 98/37/CE

In particular, the following harmonized norms have been applied:

CEI EN 61000-6-3 ; CEI EN 61000-6-1 ; CEI EN 55022 ; CEI EN 61000-4-3 ; CEI EN 61000-4-2

Therefore the Product above-sued can be considered properly done to guarantee the safety of things and people, provided that it has been installed correctly, following what it's written in the Operating Instructions.

N.B. It's not allowed to make the product working till the machine, in which the product is integrated, is not identified and declared conforming to the Directive 98/37/CE.

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4. ELIMINATION OF THE PRODUCT

When you decide to use no-more the product "Exchange Box" and so you want to eliminate it, it is suitable to make it inoperative, disconnecting it from the supply circuit.

It's absolutely forbidden to disperse this product in the environment.

For the disposal of the product, take it in the proper ecological platforms or give it to special recycling firms.



3.7 Solutions to possible problems

Here follow some cases, where there can be found some problems in the functioning of the "Exchange Box"; the customer can solve these problems by his/her-self:

Kind of problem	Possible cause	Solution
The adapter does not turn on	Absent or interrupted electric power supply	Check the correctness of the electric connections
		Check that the switch of the target release machine is ON position
The adapter is on and the start led flashes quickly	The token machine has been disconnected or there is no credit in the token machine	Connect again the token machine or insert some credit
		See paragraph 3.4 of the manual to deactivate the token machine
The credit decreases, but the target release machines do not work	The cable between the adapter and the machines has been interrupted	Check if the connection cable between the adapter and the machines is correctly inserted and that the machines are on

For other problems and if you don't manage to solve the problems above, ask some skilled workers for help.

This Manual is provided together with the following equipments:
 "Exchange Box for Bunker/ Skeet/ Hunting with connectors"
 "Exchange Box for Bunker/ Skeet/ Hunting with connectors with cables"
 "Exchange Box for Bunker/ Skeet/ Hunting with connectors with Transmitter"

In this manual the equipment is called "Exchange Box"

1. SUMMARY

Dear customer, we thank you to choose our product and we ask you to read carefully the Operating Instructions on the use of the "Exchange Box", which is necessary for a correct use of it and for its safety.

The information of the manual have the aim to provide notices about:

- The use of "Transmitter + Radio Receiver for Target Machine Control";
- Technical Features;
- Elimination Instructions.

FEATURES OF THE PRODUCT:

- The "Exchange Box" is a product that enable the ranges to work with more disciplines tank to a system of automatic exchange for machines and microphones when the discipline is changed; moreover it is created to signal the functioning of the microphone through a lamp that is placed on the basis of the pedestal. The model with transmitter let the connections of the skeet and hunting machines via radio.



These Operating Instructions must be considered part of the product "Exchange Box" and therefore must be kept for all the period in which the product works, in case you need them in the future.

2. SPECIFICATIONS OF THE PRODUCT

2.1 Intended Use

The "Exchange Box" is a product which is intended to be joined to our "Computerised Automatic Sequencer" with a firmware that has been updated to the version "3.00" or to a superior one.

The following models of the product are available:

- QSK03 : Machine Exchange Box with connectors - for a direct installation on preexisting implants.
- QSK04 : Machine Exchange Box with with clamps - For an installation in new ranges, where there are no connectors.
- QSK05 : Machine Exchange Box with Transmitter- For an installation in hunting ranges without cables.

2.2 Dimensions and weighs

The overall dimensions of the product (not packed) are::

Width: 4,4 cm
Length: 12 cm
Heigh: 10,6 cm

The overall weigh is 5,5 kg.

2.3 Electronic supply data

220 Vac, input ~15 VA
12 Vdc, input ~200 mA (2 A for the direct control of the machines)



ELFIPA S.n.c. doesn't take any responsibility for a wrong installation or connection of the product. It's suitable that all the operations are made by skilled workers.

3.6.1 Activation of the Transmitter:

To enable the radio transmission to the Hunting machines, it is necessary to move downwards the gear of the DIP SWITCH n.1 of the block SW1 (as shown by the yellow arrow on the previous page) in ON position. In case you don't want to use the transmitter it is important to keep the gear down to avoid possible interferences with other radios.

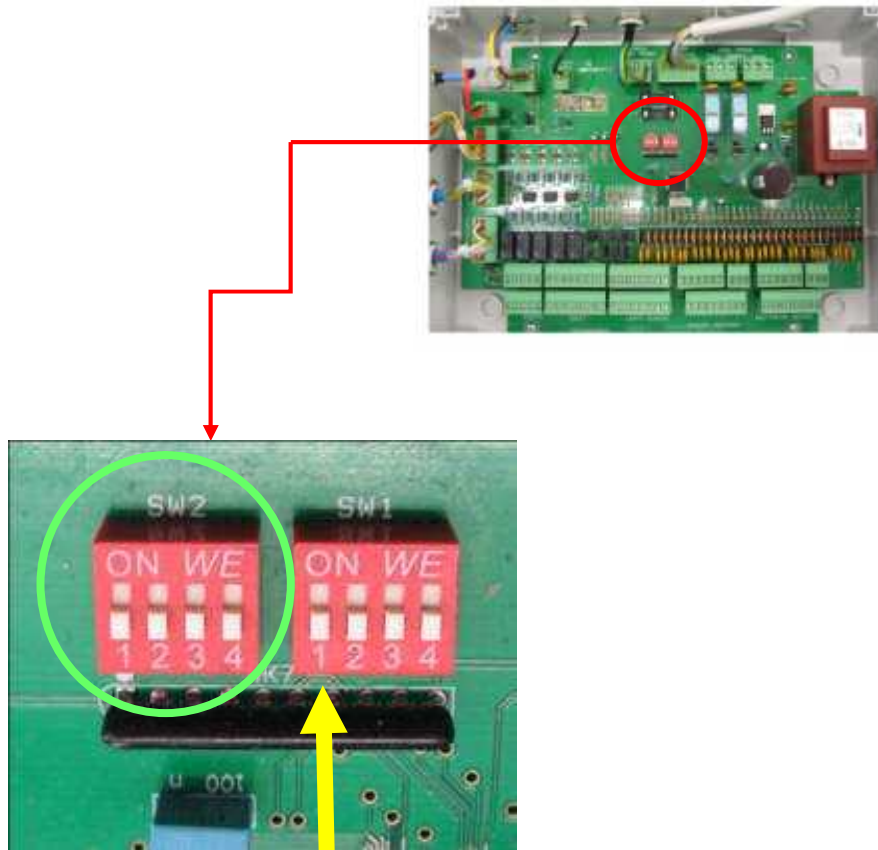
3.6.2 Range codes combinations

To set the range code, follow what is reported by the table below, working on the block SW2 (see the previous page in the green circle). Moreover refer to the manual of the radio receiver to do the programs.

code 0 = - - - - ON	code 8 = - - - ■ ON
code 1 = ■ - - - ON	code 9 = ■ - - ■ ON
code 2 = - ■ - - ON	code 10 = - ■ - ■ ON
code 3 = ■ ■ - - ON	code 11 = ■ ■ - ■ ON
code 4 = - - ■ - ON	code 12 = - - ■ ■ ON
code 5 = ■ - ■ - ON	code 13 = ■ - ■ ■ ON
code 6 = - ■ ■ - ON	code 14 = - ■ ■ ■ ON
code 7 = ■ ■ ■ - ON	code 15 = ■ ■ ■ ■ ON

3.6 Use of the "Exchange Box" if it is intended to work with the Radio Transmitter

If a model of the "Exchange Box" is intended to work with the Radio Transmitter, it is possible to use it to control the skeet and hunting machines. The insertion of the transmitter does not exclude the direct control of the machines that are connected through cables. Therefore you can have both connections through cable or through radio.



2.1 Environment Conditions and Using Limits

The "Exchange Box" is arranged to work in temperature and humidity standard conditions.

These standard conditions correspond to temperatures included between -5°C and $+40^{\circ}\text{C}$ with a degree of humidity of 50% 620%.

The product is made to be installed next to the "Computerised Automatic Sequencer" and has to be prevented from weather conditions (rain, humidity, etc..)

The declared protection index is IP 40.

2.4 Safety Directions

The "Transmitter + Radio Receiver for Target Machine Control" implies some risks and for them is absolutely necessary to pay attention to what follows:

- Before doing whatever cleaning operations or maintenance, disconnect the "Exchange Box" from the electronic supply;
- To guarantee the maximum stability and safety of the "Exchange Box", it must be positioned on a solid, plane and stable surface;
- **Warning** this is an A Class product. If it is set in a residential place, it can cause radio troubles. In this case the user can be asked to take proper measures.
- ELFIPA S.n.c. doesn't take any responsibility for the following cases:



- Unproper use of the product "Exchange Box" (for the Intended Use, go to paragraph 2.1 of this Manual);
- Defects in the electronic supply;
- Modifications or interventions not authorized and made by not skilled workers;
- Non-observance (partial or total) of the Operating Instructions.

3. INSTRUCTIONS

3.1 Connection of the Exchange Box to the Sequencer or to the Token Machine (if present)

To connect the "Exchange Box", work as follows:

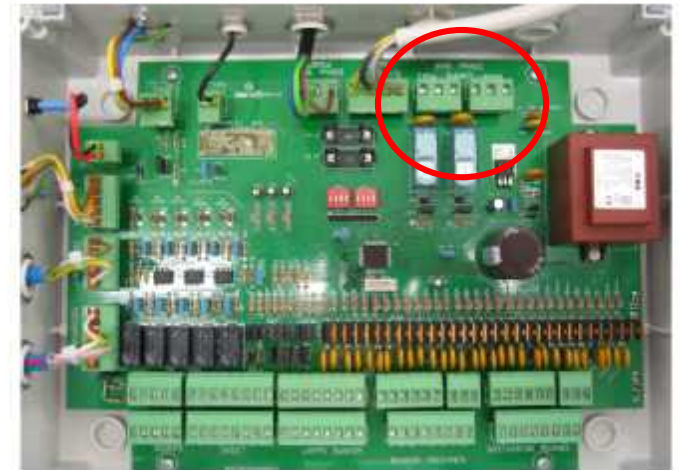
- 3.1.1 If you have the token machine, disconnect the cable of the token machine which goes behind the sequencer and connect it to the "Exchange Box" (picture 1, point 1); then insert the connector (picture1, point 2) on a one side of the "Exchange Box" to the token machine socket, which is place on the rear part of the sequencer.
- 3.1.2 Connect the other connector (picture 1, point 3) of the "Exchange Box" to the microphones socket which is placed on the back of the sequencer.
- 3.1.3 Check if the switch on the cover (picture 1, point 5) of the "Exchange Box" is on "OFF".
- 3.1.4 Connect the power supply cable (picture 1, point 4) of the "Exchange Box" to the power supply socket (220 Vac).

3.5 Connections of the Pull and Mark lamps

Attention!

Before doing this connection, make sure that you have disconnect the power supply.

- 3.5.6 Open the cover of the "Exchange Box", removing the four screws at the corners.
- 3.5.7 Remove the connectors that appear on the picture below and inserted in the board.
- 3.5.8 Route the cables of the lamps through the fairlead, which is on the edge of the box; then connect the cables of the lamps, respecting exactly the order.
- 3.5.9 Insert again the connectors in their place, respecting the direction of insertion.



3.4.11 Connections to the Skeet Machines to the connector:

- 3.4.11.1 On the preexisting ranges, take the microphones connector (which has previously been disconnected from the sequencer) and connect to the female connector which is marked by the red arrow.
- 3.4.11.2 In case the machines haven't been wired yet, see the manual of the sequencer for a correct connection of the male connectors of the machines.

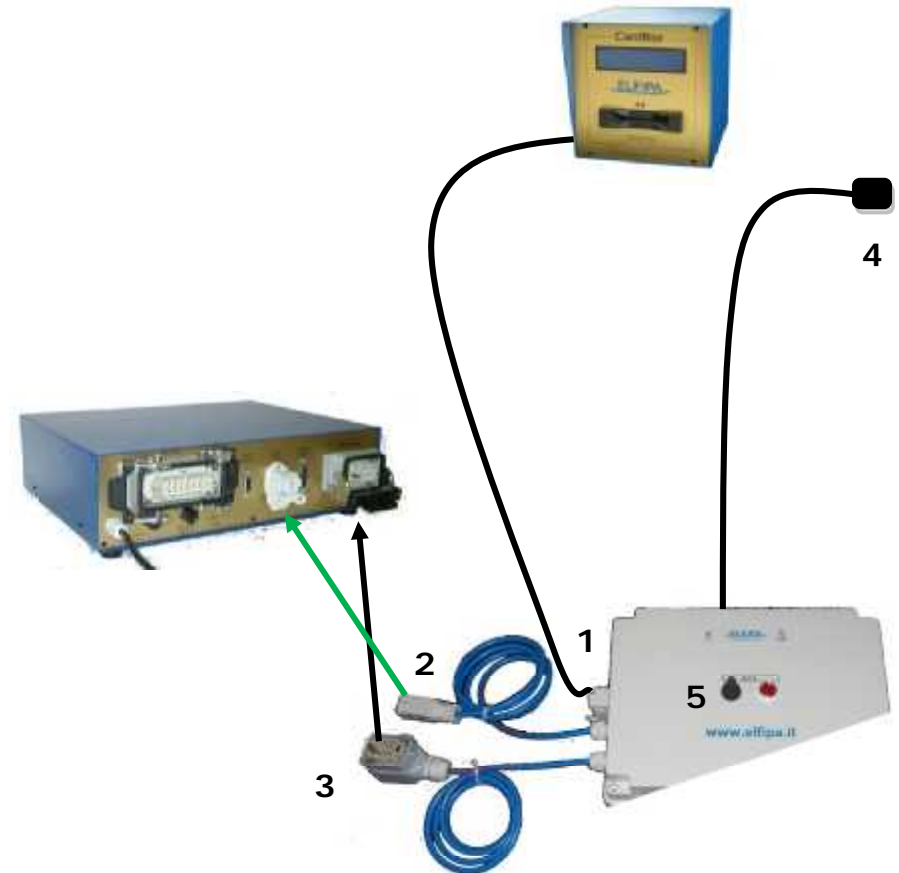


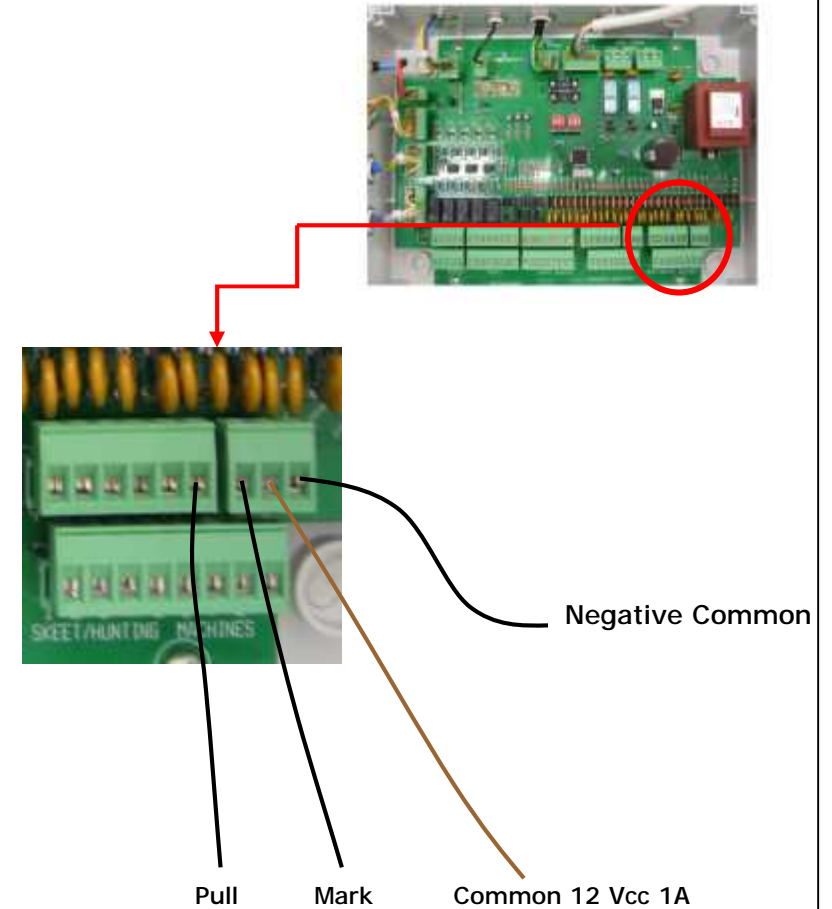
Fig.1

3.2 Connections of the "Exchange Box" to the Microphones

You can connect the "Exchange Box" to both the trench microphones and the skeet ones.

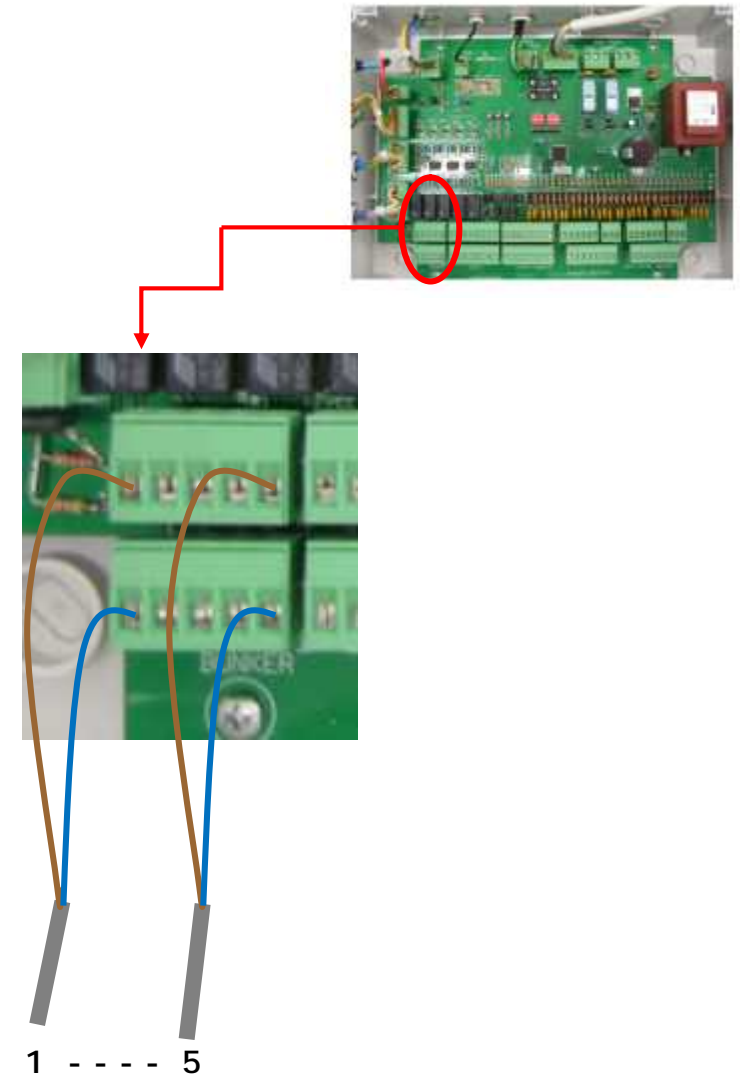
3.2.1 Connections of the Trench Microphones on the board:

- 3.2.1.1 Open the cover of the "Exchange Box", removing the four screws at the corners.
- 3.2.1.2 Remove the connectors that appear on the picture below and inserted in the board.
- 3.2.1.3 Route the cables of the microphones through the fairlead, which is on the edge of the box; then connect the cables of the microphones respecting the exact order; the reported numbers correspond to the numbers of the stations.
- 3.2.1.4 Insert again the connectors in their place, respecting the direction of insertion.



3.4.10 Connections to the Skeet Machines on the board:

- 3.4.10.1 Open the cover of the "Exchange Box", removing the four screws at the corners of the box.
- 3.4.10.2 Remove the connectors, which are seen in the picture of the board below.
- 3.4.10.3 Route the cables of the machines through the fairlead, which is on the edge of the box; then connect the cables of the machines, respecting exactly the order. The numbers reported on the board correspond to the numbers of the stations.
- 3.4.10.4 Chose where to connect the Common of the Machines up to the type of machine which is used.
- 3.4.10.5 Insert again the connectors in their place, respecting the direction of insertion.



3.2.2 Connections of the Trench Microphones to the connector:

3.2.2.1 On the preexisting ranges, take the microphones connector (which has previously been disconnected from the sequencer) and connect to the female connector which is marked by the red arrow.

3.2.2.2 In case the microphones haven't been wired yet, see the manual of the sequencer for a correct connection of the male connectors of the microphones.



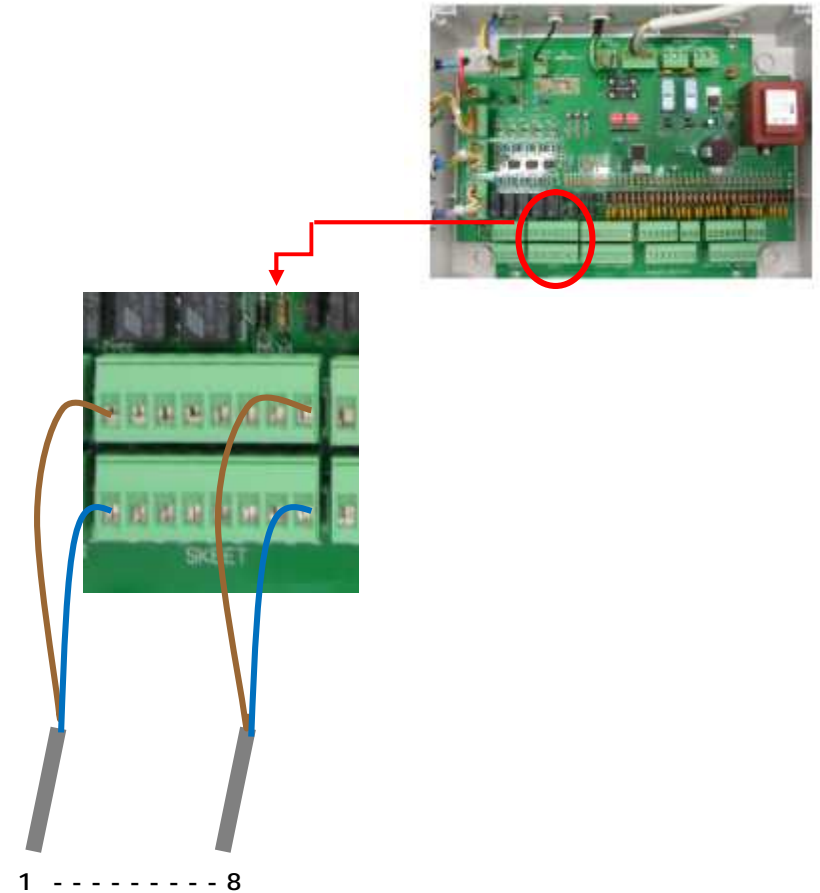
3.4.9 Connections to the Hunting Machines to the connector:

- 3.4.9.1 On the preexisting ranges, take the microphones connector (which has previously been disconnected from the sequencer) and connect to the female connector which is marked by the red arrow.
- 3.4.9.2 In case the machines haven't been wired yet, see the manual of the sequencer for a correct connection of the male connectors of the machines.



3.2.3 Connections of the Skeet Microphones on the board:

- 3.2.3.1 Open the cover of "Exchange Box", removing the four screws at the corners.
- 3.2.3.2 Remove the connectors which are seen in the picture of the board below.
- 3.2.3.3 Route the cables of the microphones through the fairlead, which is on the edge of the box; then connect the cables of the microphones respecting the exact order; the reported numbers correspond to the numbers of the stations.
- 3.2.3.4 Insert again the connectors in their place, respecting the direction of insertion.



3.2.4 Connections of the Skeet Microphones to the connector:

3.2.4.1 On the preexisting ranges, take the microphones connector (which has previously been disconnected from the sequencer) and connect to the female connector which is marked by the red arrow.

3.2.4.2 In case the microphones haven't been wired yet, see the manual of the sequencer for a correct connection of the male connectors of the microphones.



1 - - - 13

Common 12 Vcc 1A

Negative Common

3.4.8 Connections to the Hunting Machines on the board:

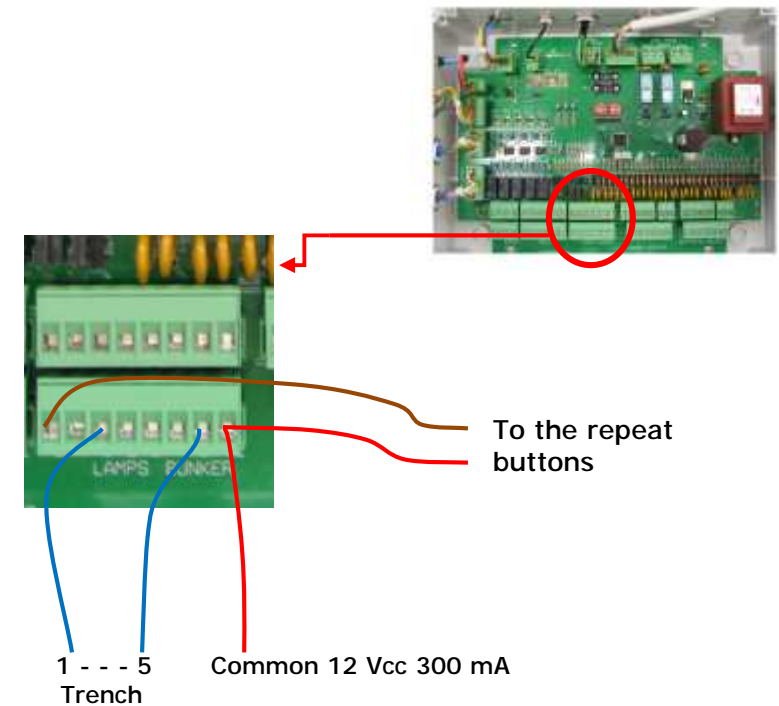
- 3.4.8.1 Open the cover of the "Exchange Box", removing the four screws at the corners of the box.
- 3.4.8.2 Remove the connectors, which are seen in the picture of the board below.
- 3.4.8.3 Route the cables of the machines through the fairlead, which is on the edge of the box; then connect the cables of the machines, respecting exactly the order. The numbers reported on the board correspond to the numbers of the stations.
- 3.4.8.4 Chose where to connect the Common of the Machines up to the type of machine which is used.
- 3.4.8.5 Insert again the connectors in their place, respecting the direction of insertion.

3.3 Connections to the "Open Microphone Lamps"

You can connect the lamps of the trench microphones and of the skeet ones to the "Exchange Box", as follows.

3.3.1 Connections to the Trench "Lamps" on the board:

- 3.3.1.1 Open the cover of the "Exchange Box", removing the four screws at the corners.
- 3.3.1.2 Remove the connectors that appear on the picture below and inserted in the board.
- 3.3.1.3 Route the cables of the microphones through the fairlead, which is on the edge of the box; then connect the cables of the lamps respecting the exact order; the reported numbers correspond to the numbers of the stations.
- 3.3.1.4 Insert again the connectors in their place, respecting the direction of insertion.



3.3.2 Connections to the Trench "Lamps" to the connector:

3.3.2.1 When the "Exchange Box" includes an external connector (marked by the red circle), connect the lamps to the male connector that is given with the product, following the numeration of the pins which is mentioned at page bottom.



- 1 = lamp of microphone 1
- 2 = lamp of microphone 2
- 3 = lamp of microphone 3
- 4 = lamp of microphone 4
- 5 = lamp of microphone 5
- 6 = not connected
- 7 = not connected
- 8 = not connected

- 9 = parallel repeat button in all the microphones
- 10 = common in the lamps and in the buttons (+12 Vdc 500 mA)

Attention: The use of the repeat button with the open microphone can cause unwilling releases.

3.4.7 Connections to the Trench Machines to the connector:

- 3.4.2.1 On the preexisting ranges, take the microphones connector (which has previously been disconnected from the sequencer) and connect to the female connector which is marked by the red arrow.
- 3.4.2.2 In case the machines haven't been wired yet, see the manual of the sequencer for a correct connection of the male connectors of the machines.

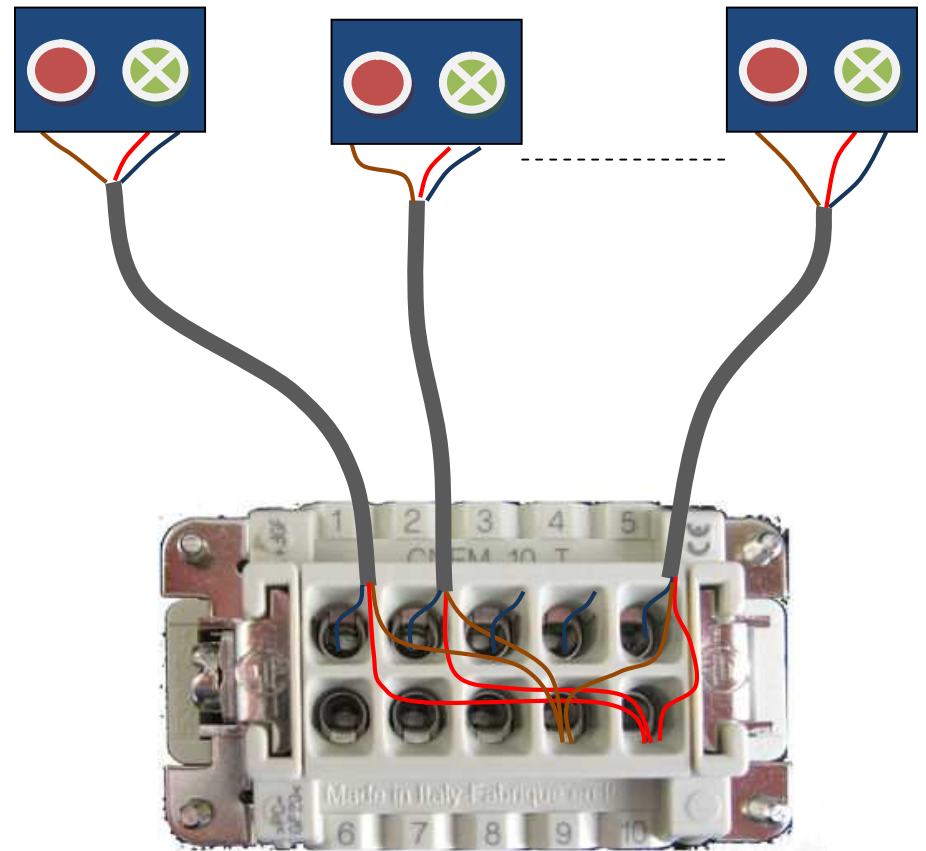


Examples of connections of the lamps to the microphones:

Microphone on station 1

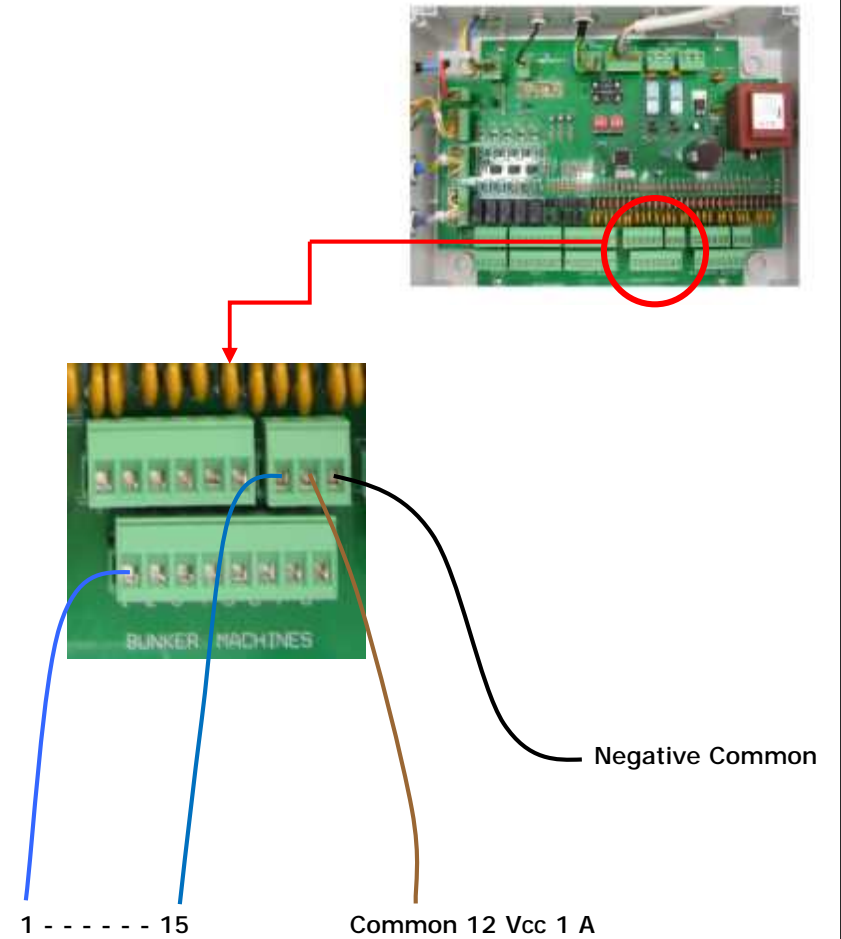
Microphone on station 5

Microphone on station 2



3.3.2 Connections to the "Lamps" of the skeet on the board:

- 3.3.2.1 Open the cover of the "Exchange Box", removing the four screws at the corners of the box.
- 3.3.2.2 Remove the connectors, which are seen in the picture of the board below.
- 3.3.2.3 Route the cables of the lamps through the fairlead, which is on the edge of the box; then connect the cables of the lamps, respecting exactly the order. The numbers reported on the board correspond to the numbers of the stations.
- 3.3.2.4 Insert again the connectors in their place, respecting the direction of insertion.

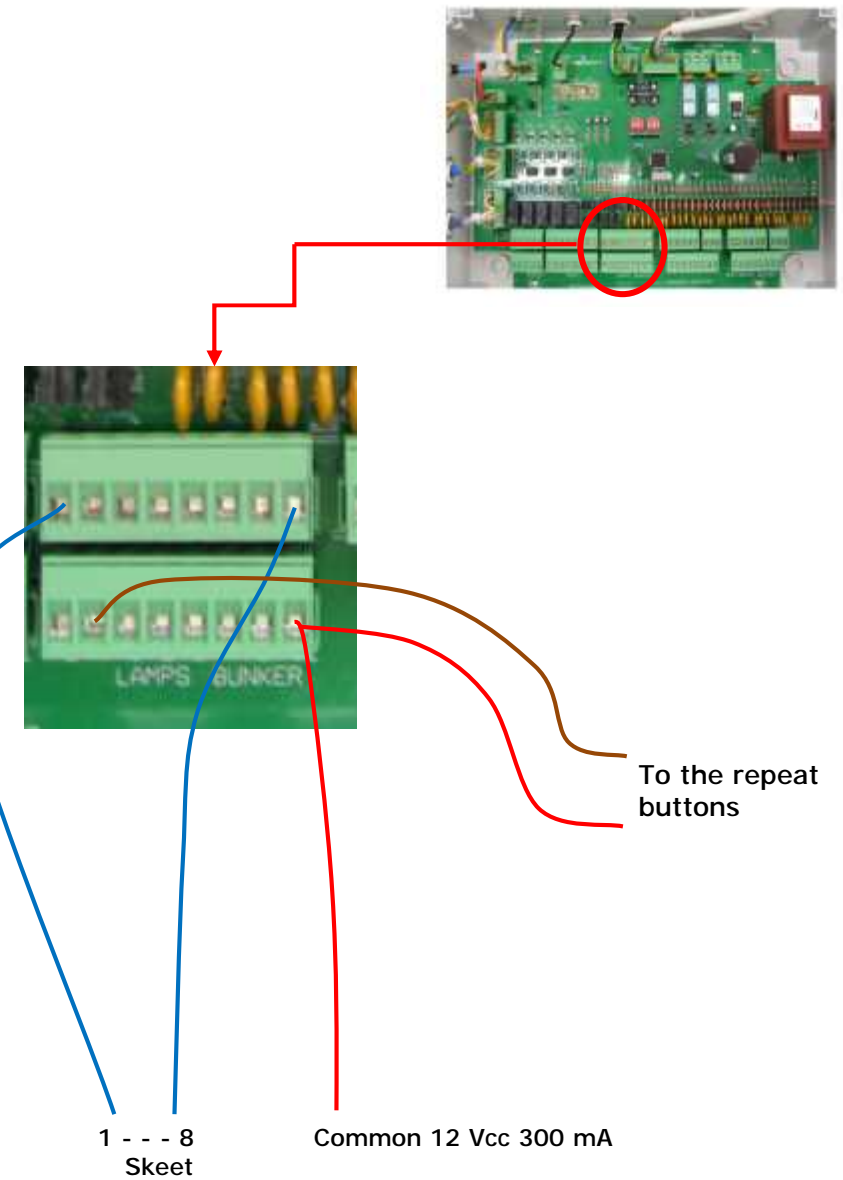


3.4 Connections of the Machines

The Trench Machines, the Hunting and the Skeet ones can be connected to the "Exchange Box", as follows.

3.4.1 Connections to the Trench Machines on the board:

- 3.4.1.1. Open the cover of the "Exchange Box", removing the four screws at the corners of the box.
- 3.4.6.1 Remove the connectors, which are seen in the picture of the board below.
- 3.4.6.2 Route the cables of the machines through the fairlead, which is on the edge of the box; then connect the cables of the machines, respecting exactly the order. The numbers reported on the board correspond to the numbers of the machines.
- 3.4.6.3 Chose where to connect the Common of the machines up to the type of machine which is used.
- 3.4.6.4 Insert again the connectors in their place, respecting the direction of insertion.



3.3.4 Connections to the Skeet "Lamps" to the connector:

3.3.2.1 When the "Exchange Box" includes an external connector (marked by the red circle), connect the lamps to the male connector that is given with the product, following the numeration of the pins which is mentioned at page bottom.



- 1 = lamp of microphone 1
- 2 = lamp of microphone 2
- 3 = lamp of microphone 3
- 4 = lamp of microphone 4
- 5 = lamp of microphone 5
- 6 = not connected
- 7 = not connected
- 8 = not connected

9 = parallel repeat button in all the microphones
10 = common in the lamps and in the buttons (+12 Vdc 500 mA)

Attention: The use of the repeat button with the open microphone can cause unwilling releases.

Examples of connections of the lamps to the microphones:

Microphone on station 1

Microphone on station 8

Microphone on station 2

