



# ELFIPA

AUTOMAZIONE TIRO A VOLO  
REALIZZAZIONI ELETTRONICHE



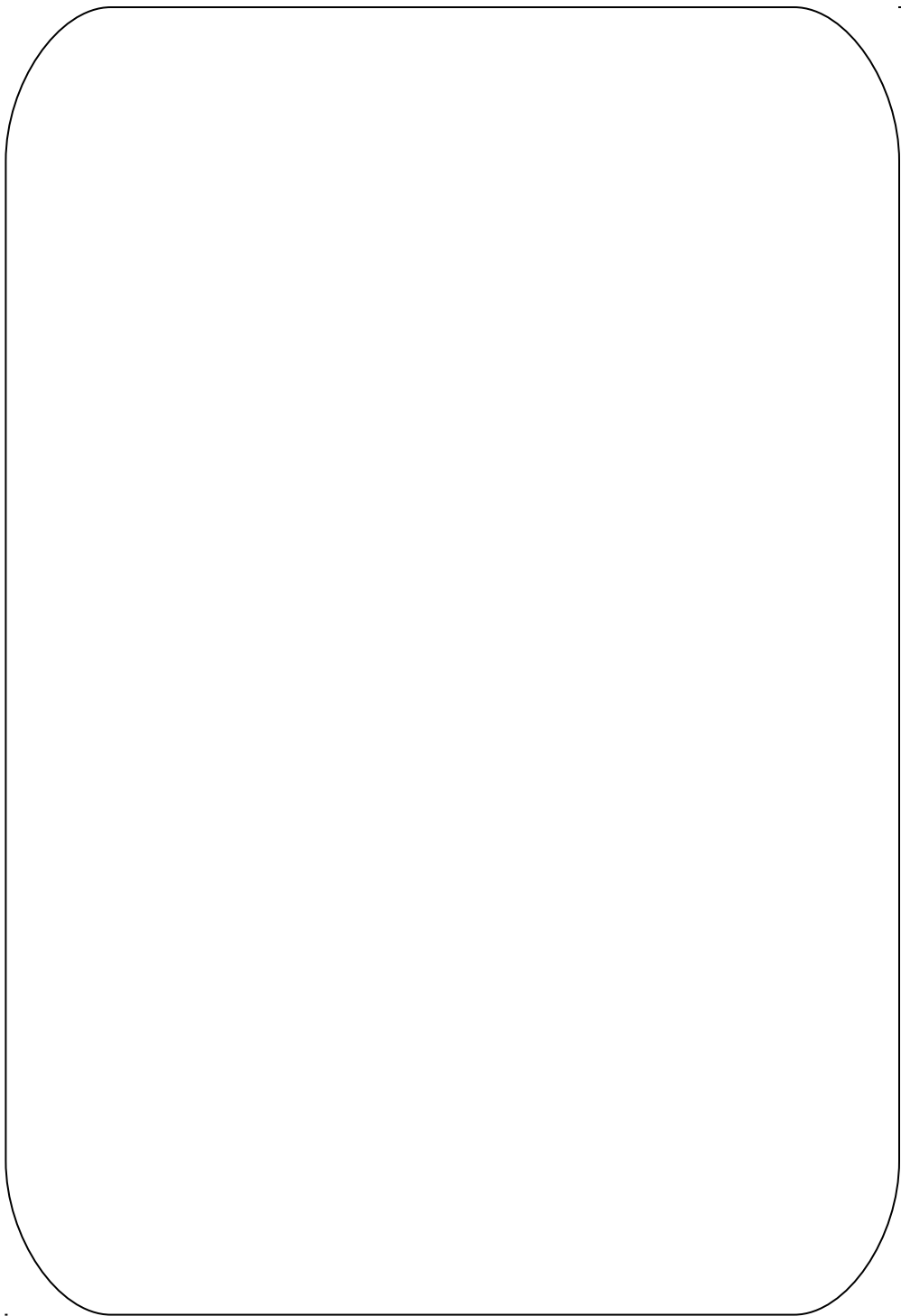
*example image*

***Expansion Box for  
Microphone and Skeet***

# ***Operating Instructions***

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***This Manual is provided together with the following equipments:***

- "Expansion Box for external machines with terminal board"
- "Expansion Box for external machines with connectors"
- "Box for lamp "open-microphone" with terminal board"
- "Box for lamp "open-microphone" with connectors"
- "Microphone Automatic Exchange box for skeet with terminal board"
- "Microphone Automatic exchange box for skeet with connectors"

But it will be called "Expansion Box" in the following manual.

**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 "Expansion 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 "Expansion Box";
- Technical Features;
- Elimination Instructions.

**FEATURES OF THE PRODUCT:**

- The "Expansion 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 or to signal the functioning of the microphone through a lamp that is placed on the basis of the pedestal.



*These Operating Instructions must be considered part of the product "Expansion 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 "Expansion 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 "4.00" or to a superior one.

The following models of the product are available:

- QSP01 : Expansion Box for external machines with terminal board
- QSP02 : Expansion Box for external machines with connectors
- QSL01 : Box for lamp "open-microphone" with terminal board
- QSL02 : Box for lamp "open-microphone" with connectors
- QSC01 : Microphone Automatic Exchange box for skeet with terminal board
- QSC02 : Microphone Automatic exchange box for skeet with connectors

### **2.2 Dimensions and weights**

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

Width:	22	cm
Length:	17	cm
Height:	9	cm

The overall weigh is 1,5 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.*

## 2.1 Environment Conditions and Using Limits

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

These standard conditions correspond to temperatures included between - 5°C and +40°C with a degree of humidity of 50% ±20%.

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 "Expansion Box" implies some risks and for them is absolutely necessary to pay attention to what follows:

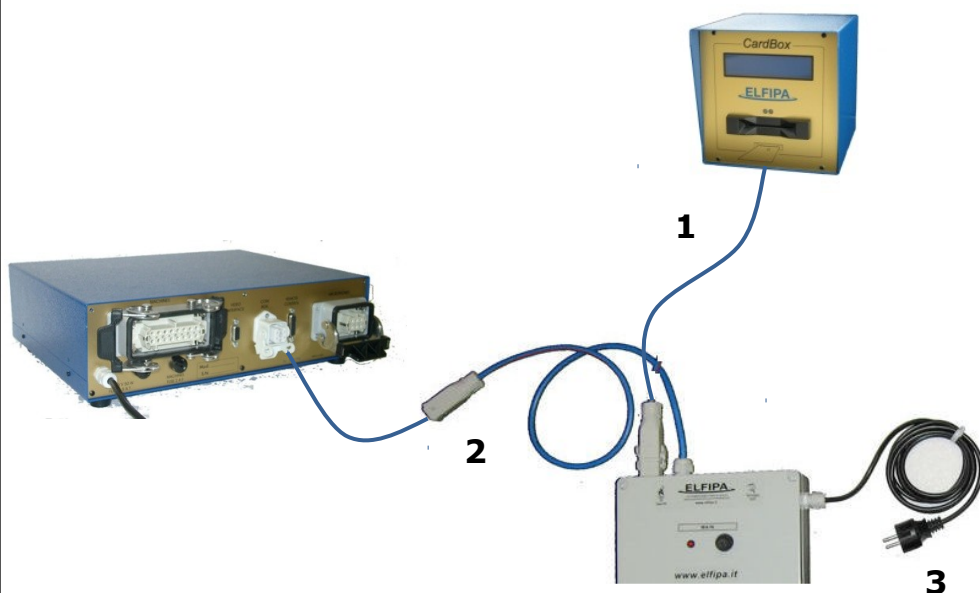
- Before doing whatever cleaning operations or maintenance, disconnect the "Expansion Box" from the electronic supply;
- To guarantee the maximum stability and safety of the "Expansion Box", it must be positioned on a solid, plane and stable surface;
- **Warning** this is an A Class product. If it is 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 "Expansion 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;
  - (Partial or total) neglect of the following Operating Instructions.



### **3. INSTRUCTIONS**

#### **3.1 Connection of the Expansion Box to the Sequencer**

##### **3.1.1 Connection of one single accessory**

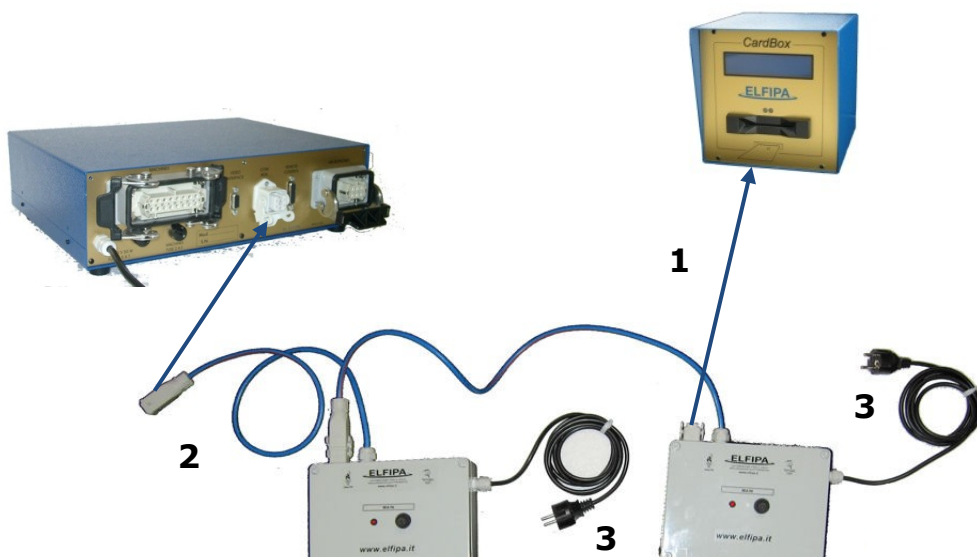


Picture.1

- 1- Disconnect the plug n.1 of the token machine (if present) from the sequencer and connect it to the plug of the exchange box, labeled COIN BOX
- 2- Connect the plug n.2 to the sequencer
- 3- Connect the plug n. 3 to the power supply socket (220 Vac)



### 3.1.2 Connection of more than one accessory



Picture. 2

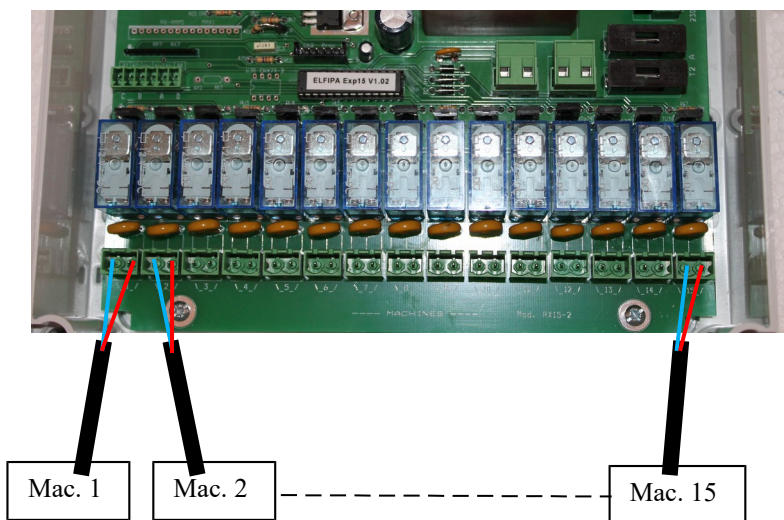
- 1- Disconnect the plug n.1 of the token machine (if present) from the sequencer and connect it to the plug of the last exchange box, labeled COIN BOX
- 2- Connect the plug n.2 of the first exchange box to the sequencer; connect the plug n.2 of the second exchange box to the first one.
- 3- Connect the plug n. 3 to the power supply socket (220 Vac)

## 3.2 Connection of the Machines and/or Microphones to the Expansion Box:

### 3.2.1 Connection of the expansion box for external machines (with terminal board)

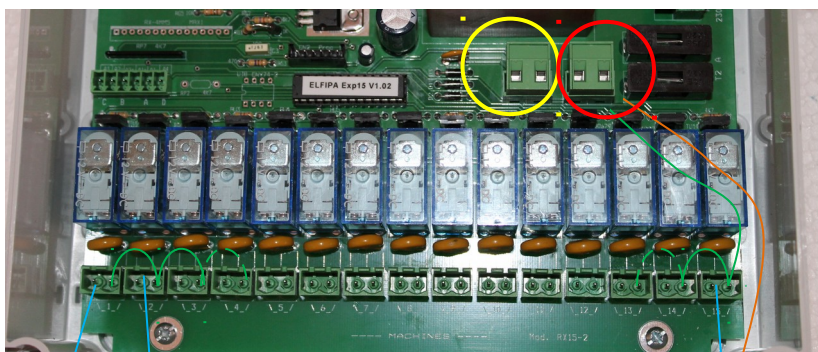
The different machines can be connected to the Box in three ways, according to the machine type. Consequently, after opening the cover to enter the terminal board, follow the passages below:

- 1- in the machines that release directly through a button, connect directly the release control to the correspondent terminal (e.g. machine #1 to the terminal #1, and repeat the same till machine #15);



Picture. 3

- 2- in the machines that need 12 Vdc power supply at release, take one of the two wires to the terminal GND and the other to the terminal MACHINES ( marked by the yellow circle);
- 3- in the machines that need 230 Vdc at release, take one of the two wires to the terminal VAC and the other one to the terminal MACHINES (marked by the red circle).



Picture. 4

### 3.2.2 Connection of the expansion box for external machines (with connectors)

For the machines connection to the connector, see the manual of the sequencer, where there the explanations of different machines ( look at pgs 13-15). The connector is the one within the red circle.



Picture. 5

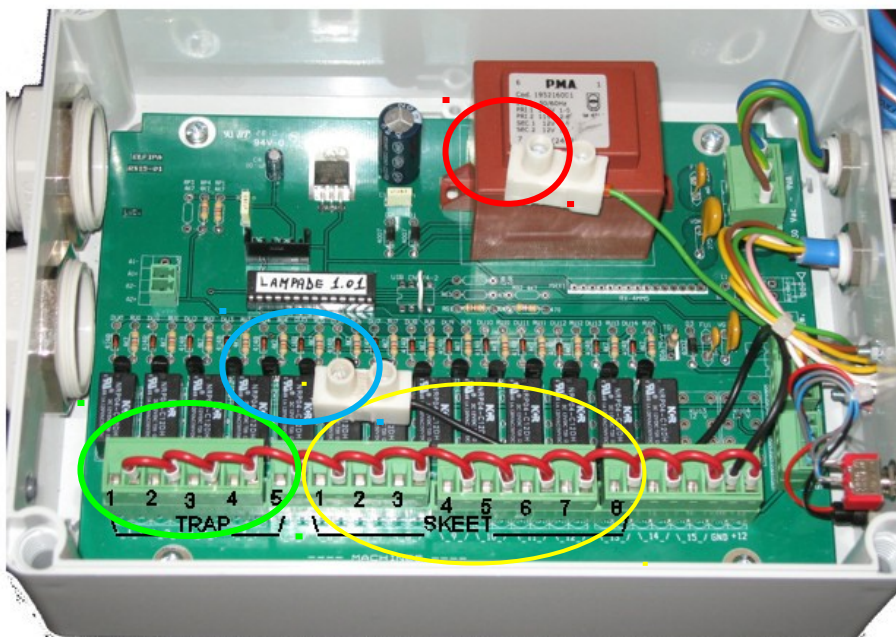
### 3.2.3 Connection of the expansion box for lamp "open microphone control (with terminal board)

The equipment is predisposed to control the lamps 12 Vdc, 5 W max. It is possible to use the lamps with different electrical power and voltage, inserting a proper external power unit.

As showed in picture.6, the terminals circled in green serve the trap lamps, while the terminals circled in yellow serve the skeet lamps.

The common of the lamps instead must be connected to the terminal marked by the blue circle.

In our lamp support the repetition button is inserted too, these buttons must be connected to the terminal circled in red.



Picture. 6

### **3.2.4 Connection of the expansion box for external machines (with connectors)**

When the "Box of Lamps Control" is predisposed with the external connectors (one for trap and one for skeet), connect the lamps to correspondent male connector which is supplied with the equipment, following the numbers of the pins, which is reported below:

- 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 = lamp of microphone 6
- 7 = lamp of microphone 7
- 8 = lamp of microphone 8

9 = parallel repeat button in all the microphones

10 = common in the lamps and in the buttons ( +12 Vdc 500 mA)

In the trap connector only the outputs #1-5 are used.

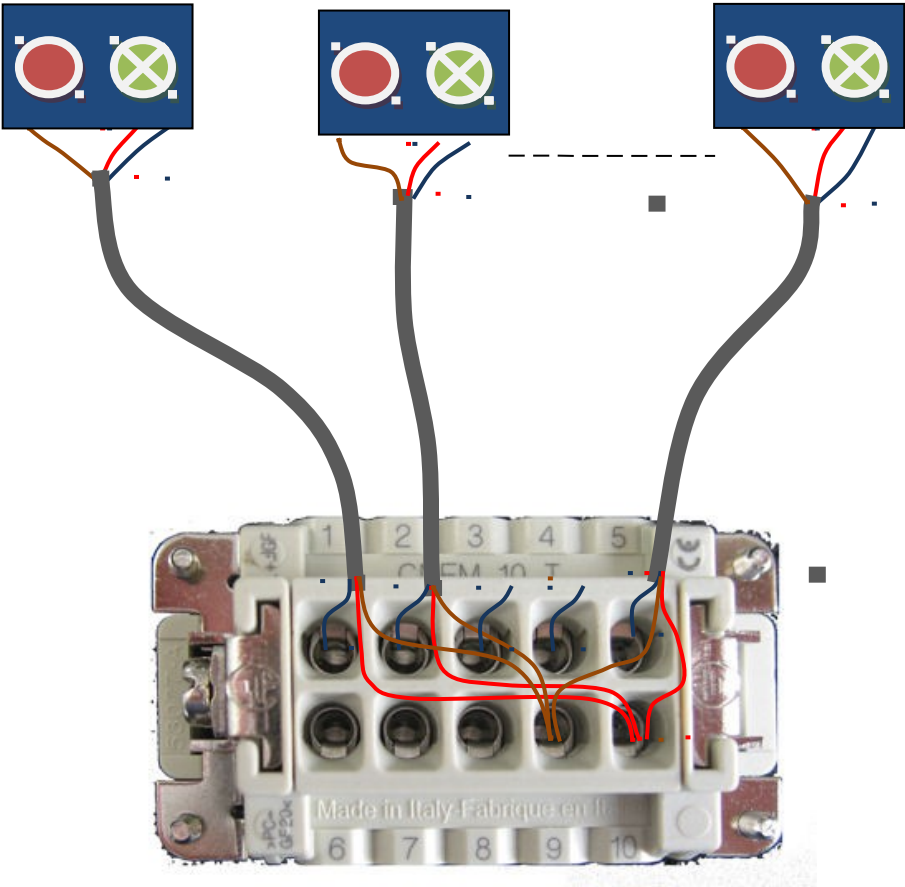
**Attention:** The use of the repeat button with the open microphone can cause unwilling releases.

**Example of lamps connection in the microphones:**

Microphone in the station #1

Microphone in the station #5

Microphone in the station # 2



Picture. 7

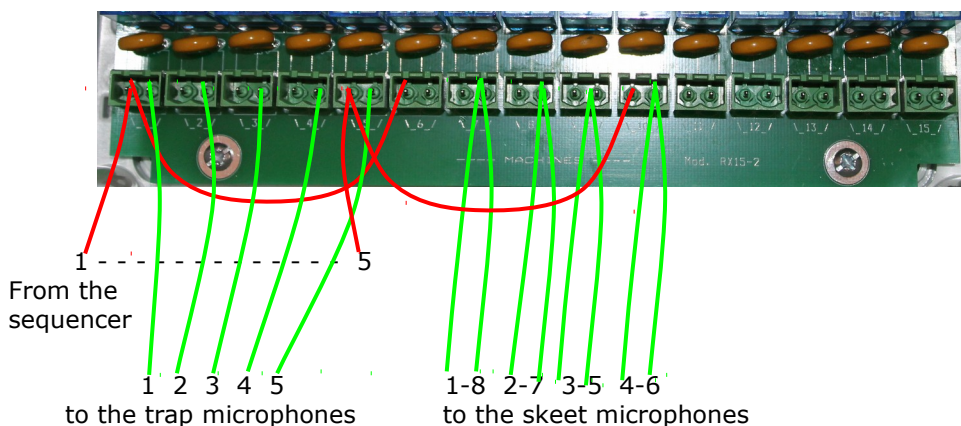
### 3.2.5 Connection of the Exchange Box for Skeet (with terminal board)

#### 3.2.5.1 The microphones connection:

The picture.8 shows how to connect the microphones: the skeet ones must be connected in pair, using the scheme reported in the manual of the sequencer (look at pg 20).

Keep in mind that you must start from the clamp #7 when dealing with the skeet!

In the picture below two bridges are reported, but they have to be made for all the five microphones. Moreover, all the common wires must be connected in a single flying clamp.



Picture. 8



*3.2.5.2 Il Collegamento delle Macchine e delle Lampade di skeet:*  
to understand the type of machine and lamp connection, go to point 3.2.1 (pg 4 on this manual).

Connect the lamp PULL to the clamp #12 and the lamp MARK to the clamp #13; consequently, the machine PULL to the clamp #14 and the machine MARK to the clamp #15.

### **3.2.6 Connection of the Exchange Box for skeet (with connectors)**

In the version with the connectors, these ones are predisposed with the same connection of the sequencer. For this reason, you must read the sequencer manual to connect the microphones and the machines correctly.

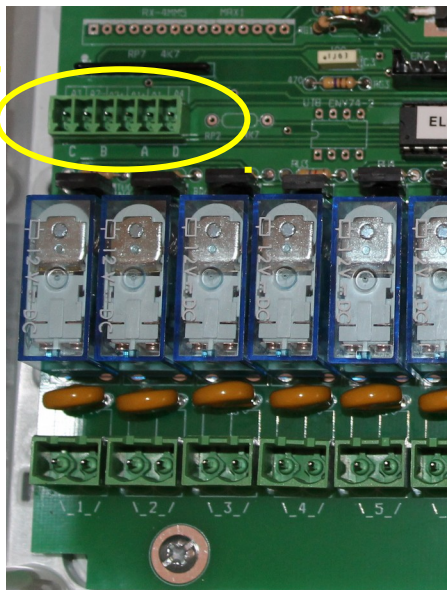


Picture.9

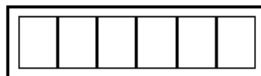
#### 4. CONFIGURATION OF THE BOARD

Usually the equipment is provided already configured for the intended use. Yet the equipment can turn out to be wrongly shaped due to a replacement or maintenance of the board.

Create some bridges following the instructions on the right, according to the use of the equipment.

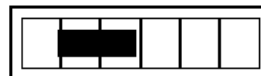


#### Machine Percorso



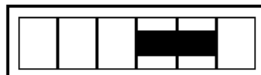
C B A D

#### Microfoni e Skeet



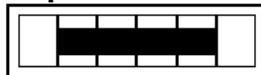
C B A D

#### Machine Fossa



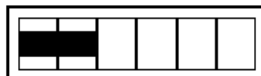
C B A D

#### Lampade Microfoni



C B A D

#### Info Pedana



C B A D

Picture. 10

## 5. SOLUTION TO POSSIBLE PROBLEMS

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

Tipo d'anomalia	Possibile causa	Rimedio
The expansion box doesn't switch on	Absent or interrupted power supply	Check the correctness of the electrical connections
		Verify that the switch of the target release machine is in ON position
The box is on, but the machines don't release	Wrong connection; non-updated program in the sequencer; internal fuses are burnt	Check again the connections
		Update the sequencer
		Replace the fuses

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

## **6. ELIMINATION OF THE PRODUCT**

When you decide to use no-more the product "Expansion 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.



# ***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

***Expansion Box***

Models: ***QSP01 – QSP02 – QSL01 – QSL02 – QSC01 – QSC02***

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

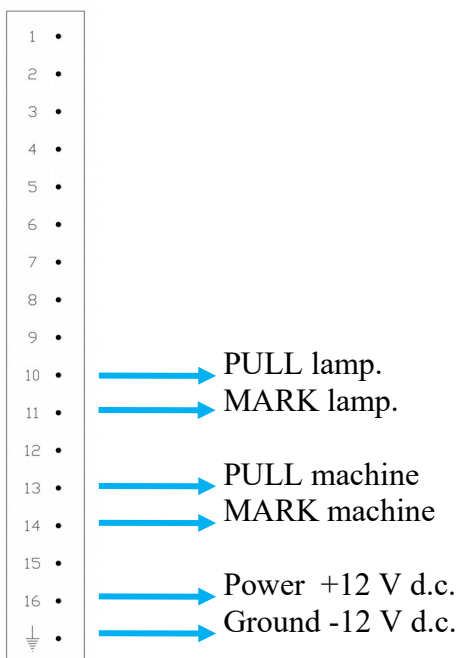
In particular, the following harmonized norms have been applied:

**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.

## Notes..... Pinout connections skeet's Lamp and machines



pin 16 = +12V

pin metal case = GND

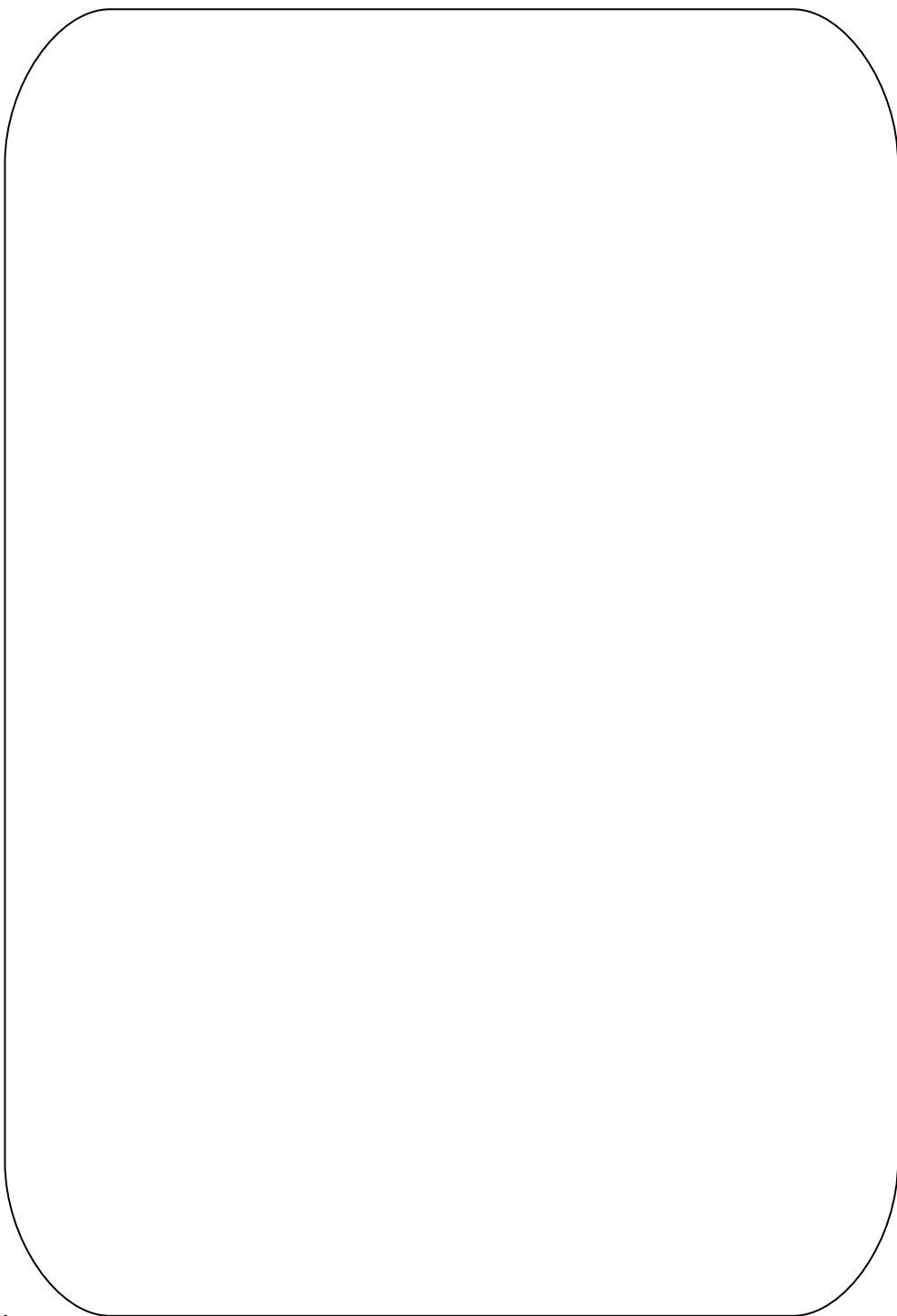
pin 10 = OUT LAMP PULL

pin 11 = OUT LAMP MARK

pin 13 = OUT MACHINE PULL

pin 14 = OUT MACHINE MARK

- All the specifications on the connections of the microphones and the skeet machines are in the "Sequencer Manual" in the paragraph n ° 3 and 4 from pag.17.





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ELFIPA s.n.c. di Fingolo & Papes  
Piazza 24 Maggio, 6  
31040 Gorgo al Monticano (TV) ITALY  
Tel. +39 0422 800291 Fax +39 0422 800812  
[www.elfipa.it](http://www.elfipa.it) [info@elfipa.it](mailto:info@elfipa.it)